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ABSTRACT

The content of current teacher education textbooks was analyzed in regard to the attention paid to contributions of women to society, recognition and discussion of sexism, and sex stereotypes. Also presented are measures teacher educators need to take to rectify potential inaccuracy and imbalance in the textbooks they use. Biased attitudes were present in texts on foundations of education, social studies methods, mathematics and science methods, language arts, and educational psychology. Texts analyzed are identified by author's name. Appended is a section on racial and ethnic minorities and a selected bibliography on sexism in education. (JD)

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BEYOND PICTURES AND PRONOUNS

SEXISM IN TEACHER EDUCATION TEXTBOOKS

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U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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PREFACE

Beyond Pictures and Pronouns: Sexism in Teacher Education Textbooks was developed through funding by the Women's Program Staff, Office of Education, U.S. Department of Health, Education, and Welfare.

The findings of this study reveal widespread sex bias in the most popular teacher education textbooks. These textbooks play an influential role in shaping the attitudes and behaviors of thousands of newly certified teachers who graduate each year from this country's colleges and universities. This study indicates that our teacher education textbooks are more likely to reinforce than reduce sexist attitudes and behaviors.

We hope that the findings of this study will not be taken as an indictment of the current state of the field, but as a constructive first step in eliminating sex bias from these textbooks. If publishers, editors, and authors are to produce sex-fair texts, they must be aware of biases that pervade existing teacher education books. To this end, we have included a series of guidelines focused on the development of sex-fair textbooks in the field of teacher education. Preliminary conversations with authors and editors have indicated a receptivity to this issue and a willingness to incorporate these guidelines. We hope that other authors, editors, and teacher educators will be similarly encouraged to implement the sex-fair guidelines included in this monograph. Also, if teacher-educators become aware of the patterns of sex bias in the texts they use, they can remedy the situation by incorporating supplementary materials such as those listed in the annotated bibliography in Appendix D.

Although the purpose of this investigation was to analyze the treatment of women in these texts, some attention was devoted to the treatment of racial and ethnic groups as well. Our initial findings indicate that a comprehensive investigation of the representation and portrayal of minorities in teacher education texts is needed. We also recommend the development of guidelines in this area.

We wish to thank Joan Duval and Patricia Goins, Women's Program Staff, U.S. Office of Education, for their support and encouragement of this study. Members of the project's Validation Panel--Lane Akers, Alma Graham, Shirley McCune, Jeana Wirtenberg and Sara Zimet--offered constructive assessment and recommendations in the development of the content analysis instrument and of this monograph. Ruth Garies and Carolyn Dozier compiled and annotated the bibliography included in the monograph. We also express our appreciation to Roseanne Alspektor and Gwen Baker for reviewing project materials and to Frank and Nancy Turaj for their encouragement and editorial assistance. Thanks are extended to Margaret Amirassefi for the monograph's graphic design and to Eric Kramer for his assistance in project management. Finally, we are indebted to the several raters who spent long and tedious hours analyzing the content of these texts and to Joyce Bouvier and Carolyn Dozier for the hours spent in typing project materials.

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LESS THAN 1 PERCENT: Sex Equity in Teacher Education Texts

Each year over 200,000 prospective teachers graduate from colleges and universities. Their professional textbooks are crucial to the way these future teachers are prepared to work with children. Texts have the potential for decreasing sex bias in teacher attitudes and behaviors. They can discuss the way sex-role stereotyping limits the potential of both female and male students. They can provide an accurate and thorough description of Title IX and its implications for schools. They can discuss curricular resources to supplement biased instructional materials. They can discuss instructional approaches that will encourage all students to reach their potential. They can describe the experiences and contributions of women in education. They can encourage future teachers to be aware of and committed to educational equity. Or, through omission and stereotyping, they can reinforce or create biased attitudes and behaviors. Their content is critical.

We decided to see what the best-selling teacher education textbooks tell future teachers about the contributions of women, about sexism, and about sex differences. We wanted to learn whether these books would help future teachers create sex-fair classrooms where children, regardless of sex, could grow and develop to their full potential. We also wanted to see what measures teacher educators need to take to rectify potential inaccuracy and imbalance in the textbooks they use.

By contacting major publishers, we identified twenty-four of the most widely used teacher education texts in the following seven areas: Foundations of Education or Introduction to Education; Educational Psychology; and Methods of Teaching in five content areas--Reading, Language Arts, Social Studies, Science, and Math. We selected these areas because they form the core of most teacher education programs across the country. All texts selected for analysis were published between 1973 and 1978 so that it would be reasonable to expect that discussion of topics related to sex equity would be included.

This was our research procedure. We developed and field-tested a comprehensive content analysis instrument and trained teams of raters in its application. Each of the twenty-four texts was analyzed by at least two raters who applied the content analysis instrument to the content of each book, including narrative, illustrations, indexes, footnotes and bibliographies. The raters analyzed the amount of content allocated to females and males, the treatment of the experiences and contributions of women, the treatment given sexism, and sex differences. They also compiled data on the experiences and contributions of racial/ethnic groups, racial/ethnic discrimination, and racial/ethnic differences. (A detailed description of research methodology, definitions of terms, and a listing of the twenty-four texts analyzed are included in Appendices A and B. Appendix C offers our findings on racial and ethnic minorities.)

After a year of textbook analysis, we reached our conclusion: Our major teacher education textbooks are failing to include this issue. Over

95 percent of the texts give the issue of sex equity less than 1 percent of book space. Many of the books do not mention the issue at all. In fact, the treatment was in all cases so minuscule that we had difficulty in presenting it graphically. As Figure I indicates, topics related to sex equity are invisible issues in our major teacher education texts. Figure II represents the imbalance in the average ratio of pages allocated to males and females in texts for each of the seven core teacher education areas. Figures III and IV provide information on the average ratio of male to female authors of the teacher education textbooks and of the reference sources these texts draw upon. The following Report Card highlights some of our major findings.

Report Card for Teacher Education Textbooks

Of all twenty-four teacher education texts analyzed:

- Twenty-three give less than 1 percent of space to the issue of sexism.
- One-third do not mention the issue of sexism at all. Most of the texts guilty of this oversight are in math and science--the areas where girls are most likely to have achievement difficulties.
- Not a single text provides future teachers with curricular resources and instructional strategies to counteract sexism in the classroom and its harmful impact on children.

Foundations of Education or Introduction to Education Texts. (Four books were analyzed.)

- In these, there is over five times as much content space allocated to males as to females.
- Three of the four books analyzed do not mention Title IX of the Education Amendments of 1972, the legislation that prohibits sex discrimination in educational programs receiving federal financial assistance. The one book that does mention Title IX spends more space on an unnamed 19th century normal school than on this important current law and its implications for schools across the country.
- Two of the four books do not discuss sexism in education. The most attention any individual book gives to this issue is less than 1/2 of 1 percent of the total content.
- One of the four books presents an extended discussion of the advantages and disadvantages of a dual salary scale, one that would pay female teachers less than male teachers.
- None of the books tells the history of women in American education. It goes unremarked that women were denied access to education

FIGURE I

The Invisible Issue

Sexism, Sex Differences and the Experiences and Contributions of Women

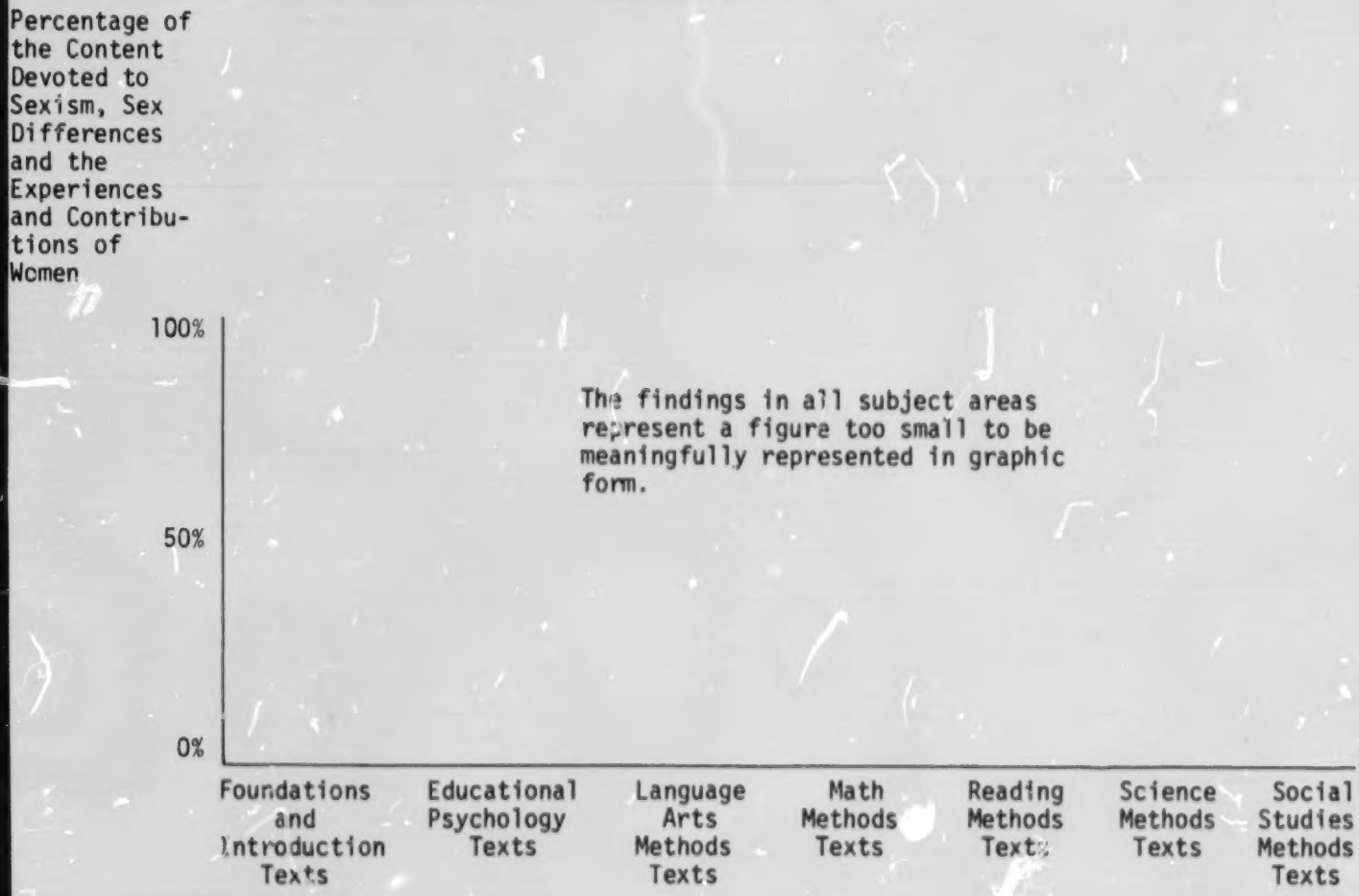

Percentage of the Content Devoted to Sexism, Sex Differences and the Experiences and Contributions of Women
100%
50%
0%
The findings in all subject areas represent a figure too small to be meaningfully represented in graphic form.
Foundations and Introduction Texts
Educational Psychology Texts
Language Arts Methods Texts
Math Methods Texts
Reading Methods Texts
Science Methods Texts
Social Studies Methods Texts

FIGURE II

Average Ratio of Pages Discussing Males and Females in Each of the Teacher Education Content Areas

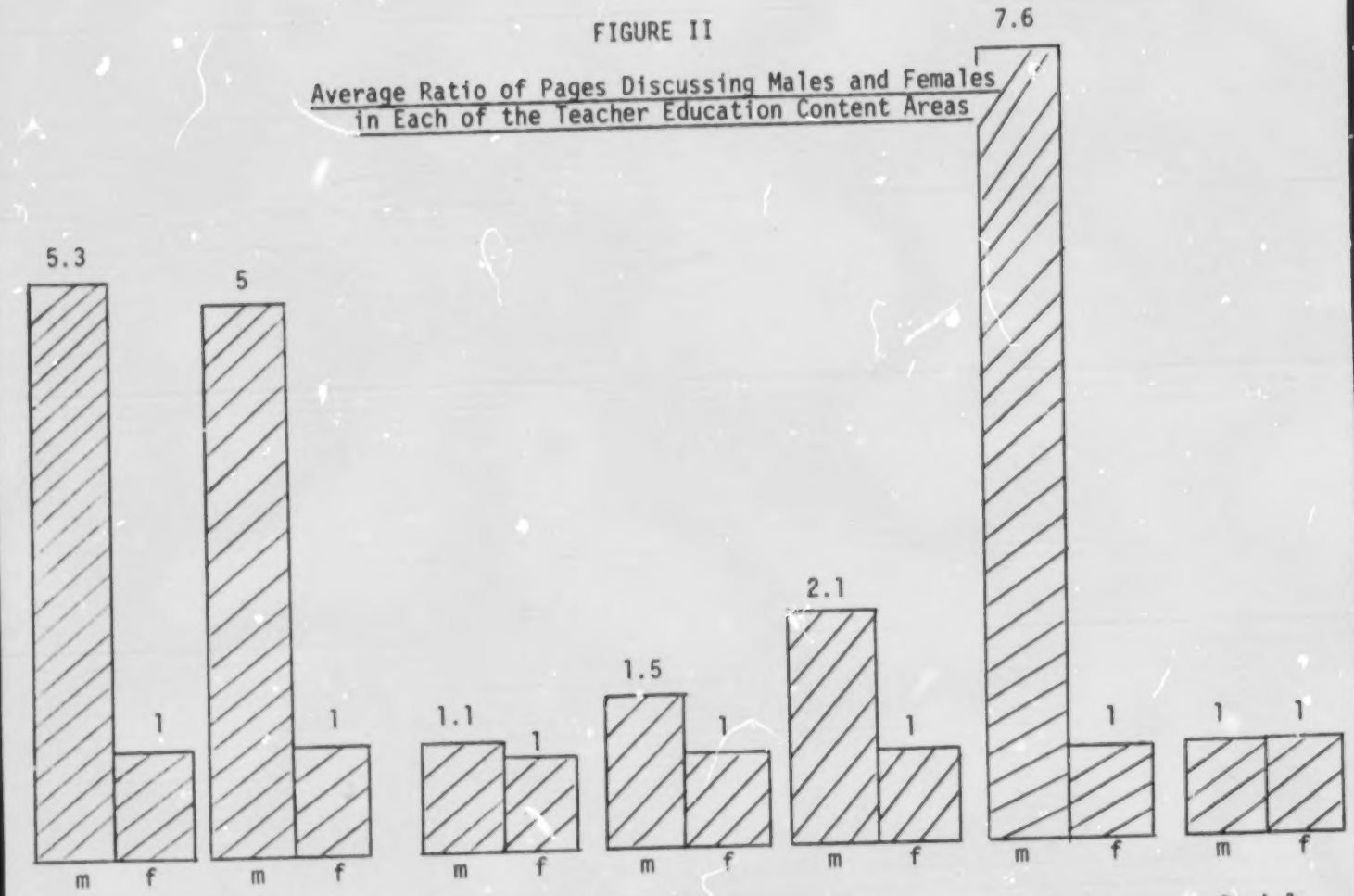


FIGURE III

Number of Male to Female Authors
in the Teacher Education Content Areas

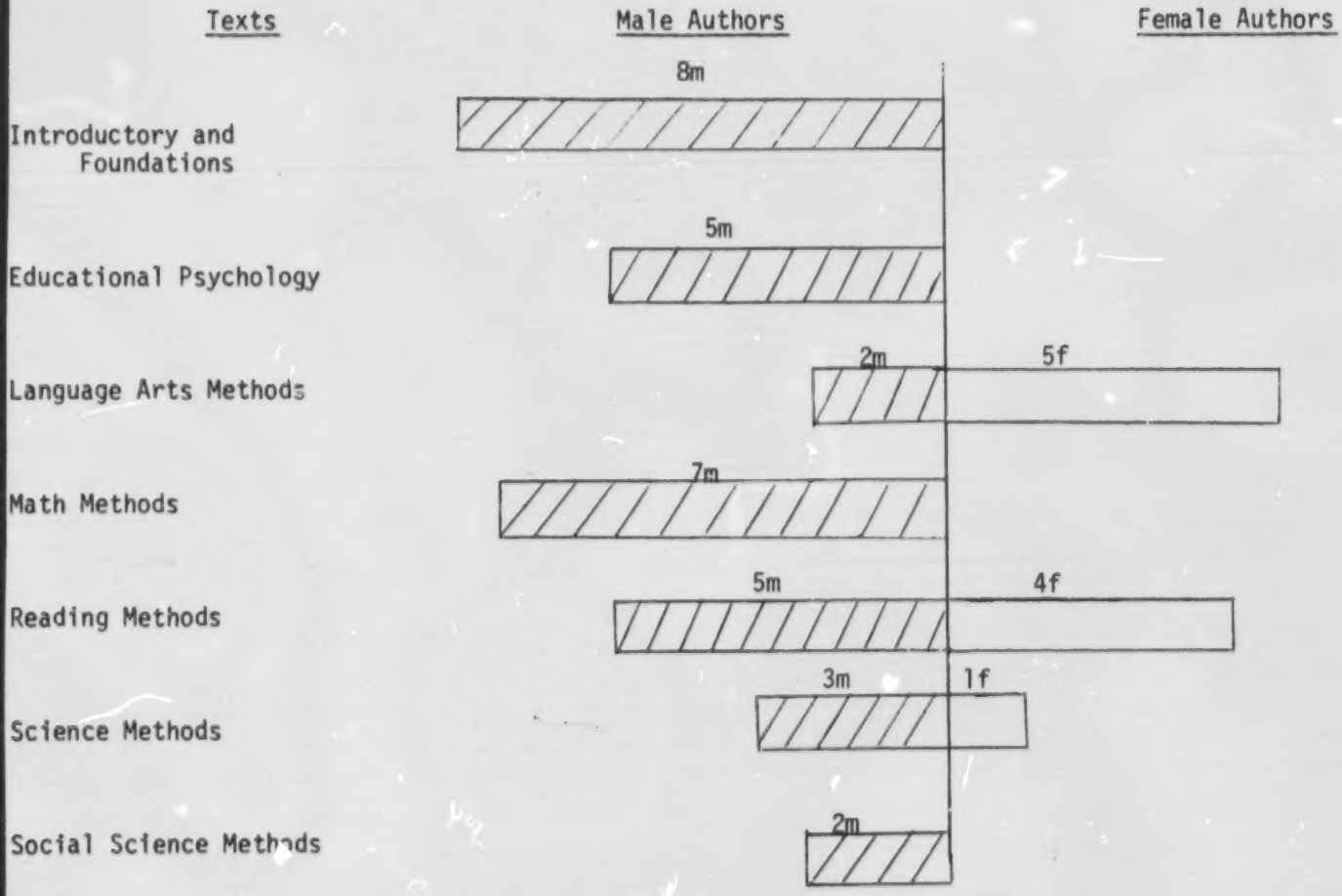
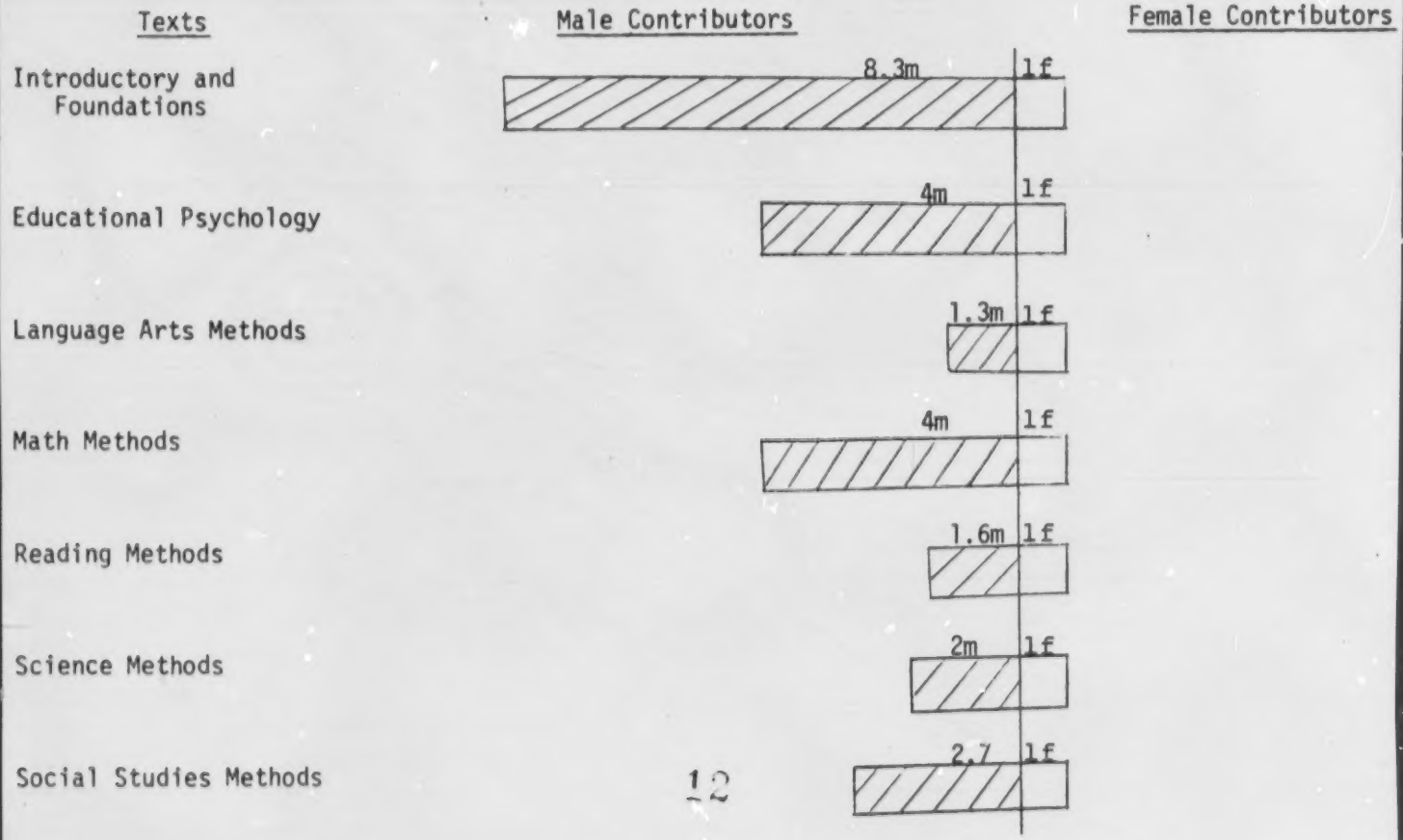


FIGURE IV

Average Ratio of Male to Female Authors Cited
in Footnotes and Bibliographies in the Teacher Education Content Areas



(beyond the dame school) for the first half of this country's history.

- If there is any field to which women have contributed--both collectively and individually--it is that of education. But you would never know it from reading these books. All four books tell of Horace Mann, but not one mentions Emma Willard. One book discusses Vergerius but does not include Maria Montessori.

Psychology of Education Texts. (Three books were analyzed.)

- In the three educational psychology books analyzed, there is an average of five times as much content space allocated to males as to females.

- Two of the three books devote less than 1 percent of content space to the issue of sexism; the third gives 1.7 percent of space to this issue.

- All of the three books discuss the topic of sex differences, but none of the three books provides a thorough and current analysis of the research in this very complex area.

- All three of the educational psychology books analyzed were written by men. For every female listed in the indexes of these books, there is an average of more than twenty males cited. An average of four times more male than female authors are cited in the footnotes and bibliographies. What do these books tell the beginning teacher? Educational psychology is still a field conceptualized, studied, recorded and dominated by men.

Methods Texts in Science, Math, Language Arts, Reading, and Social Studies. (Seventeen books were analyzed.)

- In the three science methods texts analyzed, an average of seven times more space is given to males than females.

- Results from the National Assessment of Educational Progress (NAEP), the most comprehensive effort to examine achievement on a national basis, show that the science achievement scores of males are higher than those of females at both the elementary and secondary levels. Two of the three science books do not mention this disparity. One does note that girls are more likely than boys to have problems in science. As important as this would seem to be, the book spends far more space on the best buys in bath soaps.

- Not one of the three math methods texts mentions the issue of sexism.

- The National Assessment of Educational Progress shows that female students fall farther and farther behind their male counterparts in math achievement as they go up through the grades. None of the

math methods textbooks mentions the problem or what teachers should be doing to counteract it.

- In the five reading texts analyzed, an average of more than twice as much space is allocated to males than females.

- Scores on achievement tests (including the NAEP) show that many more boys than girls have problems in reading. All five of the reaching methods texts discuss sex differences in reading achievement and/or interests. The discussion is often stereotypic:

> Boys show interest in action and aggressiveness in the affairs of the world and therefore prefer adventure, science, hero stories, biography, history and tall tales, while girls still cling to the fanciful stories, myths, stories of chivalry and romance, home life, biography, and accounts of everyday life...[1]

- Three of the five reading texts do not mention the issue of sexism.

- Two of the four language arts texts discuss sex differences in reading interests, often stereotypically. In one instance, the stereotyping pushes inexorably on to a rationalization for increased discrimination.

> For example, it has been found that boys will not read "girl books," whereas girls will read "boy books." Therefore the ratio of boy books should be about two to one in the classroom library collection.[2]

Research on Sexism: A Sampler

This Report Card demonstrates that teacher education texts do not adequately describe topics related to sex equity in education. The next question is, should they? Is there information available concerning the way sexism operates in education? on the ways it may harm children? on strategies teachers may use to counteract the harm? Is the issue of sex equity of sufficient importance to be worth more than 1 percent of a book's space? Let's take a look at some of the research.

There now exists a significant body of information concerning sex bias in education and its effect on students. (See Appendix D.) The research documents a loss of intellectual potential, of self-esteem, and of occupational aspiration as girls "progress" through school.

---

[1] Martha Dallman et al., The Teaching of Reading, 4th ed. (New York: Holt, Rinehart & Winston, 1974), p. 370.

[2] Dorothy Rubin, Teaching Elementary Language Arts (New York: Holt, Rinehart & Winston, 1975), p. 191.

Inteilectually, females start off ahead of males. Generally they speak, read, and count sooner. But by the upper grades, their performance on achievement tests begins to decline. This is particularly true in science and in math, and math is a field which has been termed "the critical filter." Girls are far less likely than boys to take advanced math courses; and by the time they reach college they are filtered out of potentially lucrative and prestigious careers in science, accounting, engineering and medicine--that is, assuming they get to college at all. Of the brightest high school graduates who never get to college, 75 - 90 percent are women.

Female students lose not only intellectual potential but self-esteem as well. As boys and girls go through school, their collective opinions of boys grow increasingly more positive and their collective opinions of girls increasingly more negative. Both sexes are learning that in our society, boys are worth more.

While there are some cracks in occupational sex-role stereotypes, girls still are channeled into the "appropriate" and "traditional" roles as teachers, nurses, and secretaries. One of the results of this channeling is that a female with a college degree can expect to earn only as much as a male with an eighth-grade education. Stereotyping is costly for women.

Costly or not, it is a classroom lesson whenever a book is opened. Content analyses show that in the most widely used elementary texts in science, math, reading, spelling and social studies, females are represented in less than one-third of the illustrations. The situation is even worse for minority females. As the grade level increases, female representation decreases. While men are shown in over 150 occupational roles, women are portrayed almost exclusively as housewives. These lessons in imbalance simply do not reflect reality. Over 40 percent of women are in the paid labor force, and the average female worker will spend almost 40 years of her life on the job.

Unfortunately, sexist messages are taught not only by books but also by both female and male teachers. Research shows that teachers are more likely to interact with male students. They are likely to talk to a female only if she is nearby. They will talk to a male student no matter where he is in the classroom. Teachers are likely to show males <u>how</u> to accomplish a particular task but to do it <u>for</u> girls. They are likely to reward males for academic achievement: "Warren, that was an excellent paper on the causes of the Civil War." They are likely to reward females for an attractive appearance and for good behavior: "Anita, that's a pretty dress you're wearing today."

Research shows that many counselors hold stereotyped expectations for females and males and that sex bias frequently characterizes testing procedures, materials, and the counseling process itself. Inequitable access and treatment in physical education, athletics, vocational education, and several other areas also have been documented thoroughly.

This is but a very brief sampler of the research on sexism in education. Comprehensive discussion would fill this monograph several times over. For our purposes, suffice it to say that the problem has been documented extensively. In fact it has been recognized as being so severe and so widespread that, in 1972, Title IX of the Education Amendments was passed. It states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program receiving Federal financial assistance."

In the following pages, we will offer a more complete analysis of the way teacher education texts in each of the seven content areas treat the issue of sex equity in education. Our analysis deals with more than pictures and pronouns, although we do not dismiss the importance of language and illustrations and their impact on the way future teachers conceptualize their world. We will examine the nature of each content area to determine which issues related to sexism in education should be included and how they should be portrayed. Finally, we will offer guidelines so that future teacher education texts will enable teachers to work fairly with all our children.

It is, in fact, the potential of all our children--our daughters as well as our sons--that this monograph is really about. That is the heart of the issue. Less than 1 percent of textbook space does not do it justice.

INTRODUCTION TO EDUCATION TEXTS: Laying the Foundation--Leaving Out Half the Story

Prospective teachers typically begin their program of study in the field of education with a course in foundations of education or introduction to education. Texts for these courses give some attention to historical, philosophical and sociological issues as they relate to education and focus on tension points or contemporary problems in this field.

Four texts were analyzed:

Johnson, James, et al. Introduction to the Foundations of American Education, 3rd ed., Allyn & Bacon, 1975.

Richey, Robert. Planning for Teaching, 5th ed., McGraw-Hill, 1973.

Ryan, Kevin and James Cooper. Those Who Can, Teach, 2nd ed., Houghton Mifflin, 1975.

Van Til, William. Education: A Beginning, 2nd ed., Houghton Mifflin, 1974.

All the authors of those texts are male. All four present education as a field defined and conceptualized by males. Table I shows that the ratio of male to female names in the index ranges from a high of thirty-nine males for every female cited to a low of more than six to one; male

TABLE I

Foundations of Education and
Introduction to Education Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages of Book Discussion Concerning Each Sex M:F	Figures in Illustrations M:F
1. Johnson et al.	6:1	9:1	3:1	1:1
2. Richey	39:1	11:1	8:1	1:1
3. Ryan & Cooper	7:1	6:1	3:1	1.5:1
4. Van Til	8:1	8:1	8:1	1.2:1

authors in the footnotes and bibliography outnumber females in ratios ranging from more than ten to one to six to one. In terms of the amount of content allocated to males and females, the range is from a high of eight times more space given to males than females, to a low of almost three times more space given to males than females. On an average, there is five times more space given to males than females in the pages of these introductory education texts.

The image of the male domain is reinforced through a variety of layout techniques. For example, throughout Van Til's Education: A Beginning, there are boxed-off sections in which authors, philosophers, researchers and teachers make statements about education. Seventy-three people are quoted. Only one is a female. Ryan and Cooper utilize a similar technique; Those Who Can, Teach includes over thirty boxed-off quotes. Not a single woman is included. The only place where there appears to be balance in these four introductory books is in the photographs, where in all four books there is an equitable distribution of females and males.

Obviously, when an author writes a book that attempts to introduce the entire field of education, there is an overwhelming amount of material that can be discussed. The process of selection is crucial. What goes into the book? What is left out? What is emphasized and highlighted? What is skipped over lightly? Our study shows that issues related to sexism and the experiences and contributions of women appear to be selected out. At best, they are mentioned in passing.

For example, foundations of education books usually include sections on the history of education. Typically, they discuss those philosophers and practitioners who have made notable contributions. One would assume that in a field like education, which has relied and still relies so much on the work of women, there would be plenty of discussion given over to women's experiences and contributions. Not so.

Van Til's Education: A Beginning includes a chapter called "What's a School For?" Here we learn about the work of those who have contributed to education. There are sections on Socrates, Plato, Aristotle, Comenius, Rousseau, Pestalozzi, Herbart, Froebel, Parker, Kilpatrick, Counts, Bode and Dewey. Only white males are mentioned. Richey's Planning for Teaching includes a chapter called "The Development of Modern Concepts of Education." We learn about many of the men cited above. We learn about other men as well: Vergerius, Locke, James, Bagley, Conant, Hutchins, Bruner, Piaget, Gagne, and Bloom. Emma Willard is not mentioned. Catherine Beecher is not mentioned. Sylvia Ashton Warner is not mentioned. Maria Montessori is not mentioned.

We find such imbalance quite astounding. Our three-year-old child has never heard of Vergerius (we had never heard of him either); but because of the school she attends, she talks about Montessori every day. She and countless other children across the country are indebted to the educational innovations of Maria Montessori. Vergerius, indeed!

The foundations text that does the best job (all is relative) in acknowledging the contributions of women is Ryan and Cooper's Those Who Can, Teach. This text includes ten boxed-off biographies of famous educators. Two are of women--Sylvia Ashton Warner and Maria Montessori; two others are of minority males.

Not only are the contributions of individual women slighted, but so is the collective contribution of women. Since the development of the normal school in the late 1800s (thanks to Emma Willard and Catherine Beecher), the field of education has relied on instruction given by women. Today over 80 percent of elementary teachers are women and approximately 50 percent of secondary teachers are women. One gets no sense from any of these books of the extent of women's role in education.

In fact, Van Til's text not only ignores women's contributions, but at times even diminishes the commitment and professionalism of female teachers. In the very first chapter of his book, he comments on why some people choose to teach. He attributes the following reasons to female students: "It's a good job for a married women" (p. 10). "My fiance and I will be married following graduation. I'll teach to support us while he goes to graduate school" (p. 10). "I'll teach until I get the degree I am really after . . . Mrs." (p. 5).

Women do get credit for one innovation in education, the dame school of colonial times. This is the only female contribution that all four texts describe.

The real history of education is marked not only by the contributions of women, but also by the discrimination they have suffered:

> Finding . . . that the young women did no manner of harm, we very cautiously admitted them to some of the recitations of lectures in the university building itself, providing always that they were to be marched in good order, with at last two teachers, one in front and the other in the rear of the column as guards.

This was how the President of the University of Missouri described the entrance of women just a little over a century ago. The President of the University of Michigan expressed similar views about women in higher education: "Men will lose as women advance, we shall have a community of defeminated women and demasculated men. When we attempt to disturb God's order, we produce monstrosities."

In the 1800s women had to fight to be allowed into the university. A few centuries earlier their struggle was for the opportunity to learn to read and write. Approximately 60 percent of Puritan women did not know how to sign their names. A 1687 decision in Farmington, Connecticut, was but one sign of the times. The town council voted money for a school "where all children shall learn to read and write English." This egalitarian statement was quickly qualified with the provision that "by all children it is to be understood that only male children will attend."

Three of the four foundations books include sections on the history of American education. None of the books plunges into the fact that half our children were once denied the opportunity to learn. If the issue is mentioned at all it is rationalized.

> As late as 1785 there were only two Latin Grammar Schools existing in Boston, and the combined enrollment in these two schools was only sixty-four boys. Girls did not attend Latin Grammar Schools simply because colleges at that time did not admit girls; inasmuch as colleges existed largely to prepare ministers, it is understandable that they did not admit girls.
>
> (Johnson et al., p. 315)

TABLE 2

Foundations of Education and Introduction to Education Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Johnson et al.	0.8%	0.6%	0.1%	3.0%	0.3%	0.1%
2. Richey	0.3%	0.4%	0.3%	0.3%	0.3%	0.2%
3. Ryan & Cooper	0.4%	0.9%	0.2%	2.0%	0.5%	0.1%
4. Van Til	0.6%	0.7%	0.1%	1.0%	0.2%	0.2%

As Table 2 indicates, sexism is not depicted as a critical issue of contemporary times. Van Til's Education: A Beginning makes no beginning at all in this area. Richey's bizarre interpretation of sexism is an extensive discussion of whether there should be a dual salary scale, one which pays women less than men. Both Johnson et al.'s Introduction to the Foundations of American Education and Ryan and Cooper's Those Who Can, Teach do discuss this issue.

Johnson and his colleagues spend approximately one and a half pages on a section called "Women." It starts out with four lines defining the complex piece of legislation that is Title IX. The authors give half of a page on discrimination in employment, a brief paragraph on stereotypic roles, and half of a page on forces for change such as the National Organization for Women and the Women's Equity Action League. The discussion focuses on sex discrimination in society. It does not deal with sexism in the field of education. There is no discussion of bias in books, in athletic opportunities, in teacher and counselor interaction patterns, or in educational employment. The problem is not defined, and there are no suggestions for what the teacher can do about it.

In a two-page section called "Sexism and Sex-Role Stereotyping," Ryan and Cooper do a better job of focusing on education. They do discuss sexism in books and bias in counseling. They cite statistics showing the absence of women in educational administration. Unfortunately, they do not mention Title IX. The section concludes with the following paragraph:

> The elimination of sexism and sex-role stereotyping in schools will be a complex procedure that will require the cooperation of teachers, administrators, school boards, counselors, educational publishers, and parents. Your role as a teacher will be especially important. As you interact with your pupils and as you select and use instructional materials, your sensitivity to this problem will help determine the attitudes of our future generations. Hopefully, educators will lead in efforts to evaluate school policies, curriculum, and practices with regard to sex bias and will eliminate sexist discrimination (along with racial and ethnic discrimination) in our schools. Remember, if you're not part of the solution, you're part of the problem.
>
> (Ryan and Cooper, p. 348)

The problem is that it's very difficult to end sexism in schools. If beginning or experienced teachers are to try, they need to understand how sexism operates and how it harms children. They need to learn curricular and instructional strategies they can use to counteract negative effects. However, the Ryan and Cooper discussion does not provide sufficient detail. Consequently, their call to arms becomes rhetoric without meaning.

Many of the entries in Sections I and III of the bibliography in Appendix D provide relevant information which should be included in foundations texts. These are key sources that teacher educators can use to counteract omissions, inaccuracies, and imbalances that may characterize their present foundations books.

EDUCATIONAL PSYCHOLOGY: Confusion in the Content

Three texts were analyzed:

Biehler, Robert. Psychology Applied to Teaching, 3rd ed., Houghton Mifflin, 1978.

Gage, N. L. and David C. Berliner. Educational Psychology, Rand McNally, 1975.

Good, Thomas and Jere E. Brophy. Educational Psychology: A Realistic Approach, Holt, Rinehart and Winston, 1977.

Skinner's behavior modification. The developmental stages of Piaget. Achievement motivation. Evaluation. Erikson's stages. Instructional strategies. Student characteristics. Measurement. Heredity versus environment. Humanistic education. Classroom management. All these and more are the substance of educational psychology. In fact, educational psychology texts not only attempt to describe a number of psychological theories and principles, but they also focus on translating these ideas into the world of the classroom. The result is the creation of lengthy and weighty textbooks. Of all the teacher education texts that were content-analyzed, those in educational psychology presented the greatest challenge.

Aside from the expected content, these texts present beginning teachers with a hidden, but discoverable, lesson: educational psychology is almost exclusively a male domain. One need only leaf through the pages of these texts in order to detect this bias. For each page which discusses a female, the typical educational psychology text offers five pages of discussion concerned with men. For every bibliographic and reference citation of the work of a female in these texts, there are four such citations of the work of males. In the index, there are over twenty times more male names than female names. So preponderant is the male presence in these texts that many beginning teachers may be led to believe that the field of educational psychology has been created and nurtured by only one-half of the population. (See Tables 3 and 4.)

This imbalance in the content, index and footnotes is underscored by imbalance in graphic design. For example, Joseph McVicker Hunt's work on human motivation receives several pages of text, two colors of ink, and a half-page photograph in the Good and Brophy text. On the other hand, Eleanor Maccoby's major work in the area of sex differences is briefly cited and footnoted, without any significant explanation. It appears that when the work of females is discussed, the offset press is made idle and the colored ink runs out.

The nominal treatment given Eleanor Maccoby makes another point. Although all three texts analyzed include discussions of sex differences, these explanations differ not only from each other, but from the exhaustive findings of Maccoby and Carol Jacklin in The Psychology of Sex Differences.[1]

[1] Eleanor Emmons Maccoby and Carol Nagy Jacklin, The Psychology of Sex Differences (Stanford, California: Stanford University Press, 1974).

TABLE 3

Educational Psychology Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages of Book Discussion Concerning Each Sex M:F	Figures in Illustrations M:F
1. Biehler	27:0	4:1	6:1	1.25:1
2. Gage & Berliner	18:1	4:1	6:1	1.60:1
3. Good & Brophy	n/a	n/a	3:1	1.20:1

TABLE 4

Educational Psychology Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Biehler	0.3%	0.7%	1.0%	2.7%	0.3%	0.6%
2. Gage & Berliner	0.6%	1.0%	1.0%	0.7%	1.7%	1.3%
3. Good & Brophy	0.2%	0.3%	0.9%	0.3%	0.6%	0.6%

While this is a complex field, and a consensus on the nature and source of sex differences has not been reached, the subtleties and complexities of this area are frequently ignored. Gage and Berliner, for example, conclude that "Females are more conforming and suggestible than males" (p. 426). Maccoby and Jacklin conclude that the review of the research in this area does not indicate any greater suggestibility and conformity among girls and, in fact, that this commonly held belief is a "myth" (p. 349).

There is sex-difference inconsistency among these three texts in explaining higher male achievement scores in math. Gage and Berliner attribute the higher math scores achieved by males to the expectations and pressures of societal sex-role stereotyping. Biehler, in discussing this very same issue, cites a study indicating that male superiority in mathematics is a function of boys' greater ability to concentrate on tasks without being confused by background information. Good and Brophy discuss at length the problems many boys encounter in learning how to read (pp. 360-362). On the other hand, they do not mention the difficulties many girls experience in their math classes.

The area of sex differences is a complex one, and to a large degree, it is still a developing field. Broad generalizations or partial explanations do not contribute to the beginning teacher's grasp of this area. Unfortunately, incomplete or inconsistent treatment serves to blur the distinctions between what is reality and what is myth in the area of sex differences. The potential result is that beginning teachers may apply misinformation about sex differences (taught to them by their educational psychology book) to their classroom practice. This has harmful implications for children in schools.

Much to their credit, all the authors of educational psychology texts do include sections describing the nature of sexism and express the hope that restrictive sex-role stereotyping can be reduced. Unfortunately, the Biehler text is undermined by a series of statements indicating subtle and not-so-subtle values which work against sex equity. For example, Biehler presents an impressive non-sex-stereotyped photograph of a woman working at repairing telephone lines. The impact of the picture is compromised by its caption: "The increasing tendency for women to do what was formerly 'men's work' has many advantages, but it may contribute to role confusion" (p. 204). This is the text's only photograph pertaining to changing roles for women. With all the possible comments that could be made about the expanding potential of women in the work force, this caption is gratuitously negative.

Unfortunately, such inconsistencies are not confined to the illustrations. Biehler goes to some length to warn against the dangers facing boys and girls in competitive events. The author is especially concerned with the potentially harmful effects of an "early maturing" girl sending a boy to "ignominious" defeat in an athletic competition, such as tetherball. He fears that such a defeat may lead not only to unnecessary anguish for the boy, but to a hollow victory for the girl, who may experience guilt and confusion because she is not "demure" and "petite" as society says she

should be. If she is a "budding feminist," Biehler points out, her victory "may be short-lived because her victim is likely to surpass her in size in a few years" (p. 184).

By reducing issues of sex equity to the rough-and-tumble world of tetherball, and by gauging male and female self-esteem in terms of an individual's congruence with societal sex-role stereotyping, the author confuses and belittles the notion of sex equity. Such comparisons suggest that defeat in athletics is the lot of females, ignores individual differences, and leads naturally to Biehler's conclusion: a girl will have problems with self-esteem "unless she adjusts to the idea of being the star of all-girl athletic teams" (p. 184).

Of the three texts analyzed in this field, the Biehler book reflects the greatest inconsistency in relation to women and sex equity, but the other two texts are not without similar lapses. While Gage and Berliner provide the reader with an excerpt from the Scott, Foresman guidelines for nonsexist language, they fail to implement such language in their own text. Good and Brophy devote some space to describing how to remediate sexism in the classroom, yet begin the very next section with the sentence: "Many psychologists have come to view *man* as capable of self-starting behavior. . . ." (italics ours). The authors of these texts include a brief disclaimer indicating that the studies on achievement motivation have been performed more frequently with male subjects than with female subjects. They then spend several pages discussing this research (conducted by male experimenters using only male subjects) to provide an overview of the state of the field on achievement motivation. The result is an implication that achievement motivation applies to males only. In the Gage and Berliner text, the role mothers play in developing achievement motivation in boys is discussed. There is no discussion related to the role of fathers in this process. There is no discussion of the development of achievement motivation in girls. In short, all the authors have a tendency to be caught in that oldest of all teaching traps: "Do as I say, not as I do."

After reviewing these criticisms, it is natural for one to assume that in terms of sexism, sex differences, and the contributions of women, educational psychology texts leave much to be desired. Although this is true, it is only part of the story. This analysis also revealed several strengths in these texts.

Of all the twenty-four texts evaluated in this study, Gage and Berliner provide the most cogent analysis of sexism in schools. In addition, they have devoted the most space to this topic (1.7 percent). Gage and Berliner have also prefaced their discussions on sex differences with several informative and useful comments. They point out that research literature may exaggerate differences between the sexes; that while studies indicating the existence of sex differences tend to get published, studies which show no sex differences are far less likely to be disseminated. The authors also point out that the range of individual differences within a sex is in fact greater than the range of differences between the sexes. These comments help to put the entire issue of sex differences in perspective.

Good and Brophy, in their text, have created a series of hypothetical situations to demonstrate certain points. These brief vignettes provide a well-balanced set of examples of female and male figures. And as has been indicated previously, all of these authors provide statements, with varying degrees of effectiveness, of moral support for the promise of sex equity.

Sorting out the many complexities concerned with sexism and sex differences is a formidable, but essential, challenge confronting educational psychologists. Although there is some progress, it is a challenge that has not yet been met.

It is imperative that educational psychology texts present a thorough review and analysis of The Psychology of Sex Differences (Maccoby and Jacklin, 1974) as well as of new research pertaining to this area. The bibliography in Appendix D has several other entries on sex-related differences in cognitive abilities that should be helpful to educational psychology authors and instructors.

TEACHING LANGUAGE ARTS AND READING: A Touch of Madness in the Method

The seventeen methods texts analyzed in the following sections are intended to provide elementary school teachers with classroom help. Each text includes discussions of elementary school curricula, as well as techniques and strategies of instruction. The purpose of these texts is to help undergraduates to function successfully as teachers in social studies, reading, language arts, science and mathematics. Although some institutions offer methods courses as corequisites along with student teaching, most colleges and universities require that these courses be taken, usually in the junior or senior years and prior to student teaching.

Five reading methods texts were analyzed:

*Dallmann, Martha, Roger Rouch, Lynette Char, and John DeBoer. The Teaching of Reading, 4th ed., Holt, Rinehart and Winston, 1974.

Durkin, Dolores. Teaching Them to Read, 2nd ed., Allyn and Bacon, 1974.

Karlin, Robert. Teaching Elementary Reading, 2nd ed., Harcourt Brace Jovanovich, 1975.

Spache, George and Evelyn B. Spache. Reading in the Elementary School, 4th ed., Allyn and Bacon, 1977.

Zintz, Miles. The Reading Process, 2nd ed., Wm. C. Brown, 1975.

Four language arts methods texts were analyzed:

Burns, Paul and Betty Broman. The Language Arts in Childhood Education, 3rd ed., Rand McNally, 1975.

Lundsteen, Sara. Children Learn to Communicate, Prentice-Hall, 1976.

Petty, Walter, Dorothy Petty, and Marjorie Becking. Experiences in Language, 2nd ed., Allyn and Bacon, 1976.

Rubin, Dorothy. Teaching Elementary Language Arts, Holt, Rinehart and Winston, 1975.

The reading and language arts methods texts are treated in a single section because there is some overlap in their content and because there

*A fifth edition of The Teaching of Reading (1978) was published after the 1974 edition had been content-analyzed. Although the fifth edition was not formally content-analyzed, it was read. From our reading it appears that on the issue of sex equity in education, the 1978 text offers no improvement over the former edition.

are parallels in their treatment of sex equity in education. One thing they have in common is their treatment of sex-role stereotyping in basal readers and children's literature. Another is their treatment of sex differences in reading and language abilities and in reading preferences.

In terms of overall space allocation, Table 5 shows that the language arts texts are reasonably equitable in their content distribution between females and males. In their use of reference sources and in illustrations, there is also fair treatment. The reading texts, when compared with the language arts texts, are not as successful in these areas (see Table 6), particularly in space allocation, where there is, on the average, twice as much content relating to males as to females.

TABLE 5

Language Arts Methods Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages of Book Discussion Concerning Each Sex M:F	Figures in Illustrations M:F
1. Burns & Broman	n/a	1.4:1	1.5:1	1.2:1
2. Lundsteen	1.4:1	1.1:1	1.3:1	1.2:1
3. Petty, Petty & Becking	n/a	1.3:1	1.6:1	1.5:1
4. Rubin	3:2	1.5:1	1.4:1	1.5:1

On the issue of sexism, all the reading and language arts books should cover the content analyses studies of sex bias in basal readers and children's literature. These have demonstrated female invisibility in children's readers because females are often omitted from stories and pictures. When females do appear, they are stereotyped to the point of caricature. For example, girls in basal readers most often are depicted doing nothing--nothing, that is, except watching their active brothers at work and at play. For that matter, boys in basal readers bear little resemblance to real human beings. They achieve feats of heroism equal only to those imagined in fantasy or seen on TV. As for adults, when father finally brings his executive briefcase home, he knows best--and he knows all. While females in these stories dissolve into tears at the least provocation, males remain emotionless--apparently incapable of expressing fear or sorrow.

TABLE 6

Reading Methods Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages of Book Discussion Concerning Each Sex M:F	Figures in Illustrations M:F
1. Dallmann et al.	2:1	1.7:1	2:1	1:1
2. Durkin	n/a	1.5:1	3:1	5:1
3. Karlin	1.8:1	1.5:1	3:1	1:1
4. Spache & Spache	n/a	1.7:1	1.3:1	1:1
5. Zintz	1.5:1	1.5:1	1.4:1	1.2:1

Omission and stereotyping have led several major publishing companies to issue guidelines to ensure that future basal readers will treat both sexes more equitably and more realistically. Several state textbook adoption committees consider the issue of sex bias to be one of their prime criteria for book selection and adoption. Many annotated bibliographies of nonsexist children's books have been published and widely disseminated. In short, there has been enormous research in and concern about sex bias in basal readers and children's literature.

Since there have been so many efforts to confront sexism in children's books, it is amazing that four of these nine teacher education books omit the topic entirely. In four other books the amount of treatment is minuscule. (See Tables 7 and 8.) For example, Burns and Broman spend four sentences discussing sex-role stereotyping in children's literature and suggest that teachers who wish to avoid sexist books obtain Little Miss Muffet Fights Back: Recommended Nonsexist Books about Girls for Young Readers.[1] This is the only resource they offer. In contrast, they provide a two-page bibliography on "Black literature," "American Indian literature," "Chinese and Japanese literature," and "Eskimo literature." There is no bibliography for nonsexist literature.

TABLE 7

Language Arts Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Burns & Broman	.3%	0.0%	0.0%	2.4%	0.04%	0.09%
2. Lundsteen	.0%	0.1%	0.0%	0.7%	0.10%	0.00%
3. Petty, Petty & Becking	.0%	0.0%	0.0%	0.7%	0.00%	0.06%
4. Rubin	.0%	0.4%	0.6%	2.0%	0.40%	0.70%

TABLE 8

Reading Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Dallman et al.	0.0%	0	0.0%	3.2%	0.00%	0.08%
2. Durkin	0.3%	0	0.0%	1.1%	0.02%	0.02%
3. Karlin	0.0%	0	0.2%	1.4%	0.00%	0.20%
4. Spache & Spache	0.0%	0	0.6%	5.3%	0.20%	0.50%
5. Zintz	0.8%	0	0.2%	6.2%	0.00%	0.60%

Lundsteen spends two paragraphs on sexism in children's literature. Her second paragraph attempts to answer the question, "What can the teacher do?"

> Again, seek a balanced selection of books. Active female protagonists are appearing more and more in new, quality books for children. Select books that emphasize achievements of both men and women. Discuss the sexist elements in our language and books when they appear in the classroom. Otherwise the teacher and the material will convey to the child the impression that the demeaning of women is socially acceptable, is an unavoidable reality, rather than a form of prejudice or a lack of sensitivity.
>
> (Lundsteen, p. 197)

Such generalities provide the beginning teacher with little real help. Given the hordes of children's book titles that are published each year, how are beginning teachers to know which books stress the achievements of both women and men? Where are the references and annotated bibliographies that they can turn to? How are teachers to know about the sexist elements in language? In all likelihood, this may be an issue they've never thought about. How are they supposed to discuss sexism in language and literature with second graders? sixth graders? It requires skill and sensitivity to talk about sexism with elementary school children. Lesson plans and instructional procedures have been developed, but Lundsteen does not tell beginning teachers anything about them.

Of all the language arts and reading methods textbooks, Dorothy Rubin's Teaching Elementary Language Arts gives the most space to the issue of sexism. Even she spends less than 1/2 of 1 percent of her textbook on the topic. Further, neither Rubin's text nor any of the other methods books in reading or language arts offers curricular resources or instructional approaches to help beginning teachers counteract bias in their books.

Six of the nine books discuss sex differences in reading preference. Their analysis of what boys like to read and what girls like to read is stereotypic. For example, Dallmann et al. comment:

> Boys show interest in action and aggressiveness in the affairs of the world and therefore prefer adventure, science, hero stories, biography, history, and tall tales, while girls still cling to the fanciful stories, myths, stories of chivalry and romance, home life, biography, and accounts of everyday life, though not always in that order. Boys will not choose a book, ordinarily, that has the name of a girl in the title, but girls will choose a boy's book.
>
> (Dallmann et al., p. 370)

Burns and Broman tell future teachers:

> Boys prefer stories of science, invention, and vigorous action. . . .Girls will read a book considered to be of interest to boys, but the reverse is seldom true.
>
> (Burns and Broman, p. 216)

Petty, Petty and Becking note that "boys scoff at love and avoid books in which the principal character is feminine" (p. 376).

The research on which such conclusions are based is, for the most part, very dated. The authors do not offer contemporary studies that may show changes in reading preferences--new interests influenced by current societal changes in accepted roles for men and women. The manner in which these studies are reported is one which appears to condone sex-typed reading preferences rather than challenge teachers to expand the reading interests of both female and male students. Further, these stereotypic statements are presented without any qualifiers. Obviously, many boys do prefer stories related to science and vigorous action. Obviously, others do not. Obviously, some girls prefer romance and quiet stories of home life. Obviously, others do not. As with all stereotypes, these broad, unqualified generalizations about sex differences in reading preferences show no regard for the reality of individual differences.

One particularly unfortunate aspect of these statements is the accepted assumption that boys will refuse to read stories about girls. Again, there is the problem of stereotypic generalizations. Some boys may object to reading books about girls, while others may not. Not all girls enjoy reading books about male characters. Again, even more offensive than unqualified generalizations is a manner of reporting that appears to condone the sex bias of some male students. The authors do not give future teachers instructional methodology to challenge sex bias in reading preferences. They do not offer bibliographies of children's books about active, interesting, adventurous girls who would attract a female as well as a male reading audience. Rather, they present a dated picture and fail to confront the sexism inherent within it. It would be unthinkable to tell future teachers to expect and accept that white children will scoff at books about Blacks or that Christian children will reject books about Jews. Yet, in telling future teachers that boys can be expected to avoid books about girls, these teacher education texts overtly condone prejudice on the basis of sex.

Dorothy Rubin's Teaching Elementary Language Arts pushes this sexist assumption to its ultimate conclusion. Her discussion of sex differences in reading preferences begins fairly enough, with a warning that teachers "must be careful not to be caught up in stereotypes." But she continues:

> However, what we know about children's attitudes toward choosing books should also be taken into account. For example, it has been found that boys will not read "girl

> books," whereas girls will read "boy books." Therefore, the ratio of "boy books" should be about two to one in the classroom library collection. Examples of "girl-type" books are Little Women by Louisa May Alcott and many of the Laura Ingalls Wilder books such as Little House in the Big Woods.
>
> (Rubin, p. 191)

Sexist statements like this lead to the publication of many more children's stories about male characters. When Scott O'Dell sought a publisher for Island of the Blue Dolphins, eventually a Newbery Award winner, he was told that the story was superb, but one minor change was required. He should change his intrepid female protagonist to a male "because boys will not read books about a girl." Fortunately, Scott O'Dell refused, and his book offers one of the finest portrayals of a female character pitting her resources against the natural elements in a struggle for survival. It is imperative that girls have the opportunity to read about independent, resourceful female characters such as O'Dell's Karana. Surely a two-to-one imbalance in the classroom library will deprive them of this opportunity.

A common theme, particularly in the language arts methods book, concerns the value of literature in helping children become more understanding of others who are different from themselves. If it is accepted practice that boys should not be expected to read books about girls, they miss the opportunity to create understanding. Moreover, if they don't read books of the quality of those written by Laura Ingalls Wilder, they miss some of the best literature available to elementary school children. Heaven knows, boys need all the help they can get in reading.

Indeed, one sex difference frequently discussed in these methods texts is the problems that male students are likely to have in reading. Both Zintz and the Spaches analyze reasons for disparity in reading achievement. Zintz concludes that girls have the edge over boys in reading because they come to school with:

> . . . (1) greater ability to sit still and do "sitting still activities and (2) greater facility with language. Add to this the bland pre-primer reading one can do with eighteen or twenty basic sight words and a woman teacher who may emphasize female values and the girls do have an advantage.
>
> Durkin has suggested that if first-grade teachers could liven up beginning reading with stories about jet planes and how they work, or rockets and the boosters they need to get into space, boys would probably fare much better.
>
> (Zintz, p. 214)

Spache and Spache offer the following reasons for boys' difficulties in reading: "the attitudes of women teachers toward boy pupils, the socially conforming attitudes of American girls" (p. 150); and the existence of a male personality style characterized as "more aggressive; less conforming; lower frustration level for boredom and monotony; more inner directed in reading to find out, not just to please the teacher. . . ." (p. 263).

It is important that problems many boys have in reading be discussed in methods texts. But conclusions such as those reached by Zintz and by Spache and Spache offer stereotypes, not illumination. Their portrayal of females is patronizing and offensive. The image that emerges is of a female student who is passive and conforming, satisfied by bland reading and monotonous activities. And their comments on the deleterious attitudes of female teachers toward boys is disproved by the research which indicates that the sex of the teacher does not have significant impact on the reading achievement of male students.

In issues relating to sexism, reading and language arts texts have far to go. It is time for these texts to replace stereotypes with current research and methodology. Section II of the bibliography in Appendix D contains many references on content analysis concerning the portrayal of females and minorities in children's reading materials. Much of this research should be cited and discussed in reading and language arts methods textbooks. Other sections of the bibliography include entries on the impact of sex bias in books on children (Simpson, Zimet) and on instructional approaches teachers can use to counteract the bias in their books (Campbell, Guttentag, McClure, Monteith, Naiman, Sadker, Schulwitz, Sprung, Styer. and several others). It is important that both those who write reading and language arts methods textbooks, as well as those who teach from them, know about this material so that they can inform our future teachers.

MATHEMATICS AND SCIENCE METHODS: For Men Only

Three mathematics methods texts were analyzed:

Grossnickle, Foster and John Reckzeh. Discovering Meanings in Elementary School Mathematics, 6th ed., Holt, Rinehart and Winston, Inc., 1973.

Heddens, James W. Today's Mathematics, 3rd ed., Science Research Associates, Inc., 1974.

Marks, John L., C. Richard Purdy, Lucien B. Kinney and Arthur A. Hiatt. Teaching Elementary School Mathematics for Understanding, 4th ed., McGraw-Hill, Inc., 1975.

Three science methods texts were analyzed:

Blough, Glenn O. and Julius Schwartz. Elementary School Science and How to Teach It, 5th ed., Holt, Rinehart and Winston, Inc., 1974.

Gega, Peter. Science in Elementary Education, 3rd ed., John Wiley and Sons, 1977.

Rowe, Mary Budd. Teaching Science as Continuous Inquiry, 2nd ed., McGraw-Hill, Inc., 1978.

Each year, America's colleges and universities graduate tens of thousands of medical doctors, scientists, mathematicians, architects and engineers. Impressive pageantry marks the rites of passage of these young adults; friends and family applaud their academic achievements, for society has recognized that careers in math- and science-related fields are deserving of both status and, eventually, money.

A closer look at the faces of these graduates reveals more than their joy, anticipation, and relief. Even the most casual observer can detect one unmistakable fact: tomorrow's doctors, scientists, mathematicians, architects and engineers are disproportionately and overwhelmingly male.

The most recent data from the National Assessment of Educational Progress indicate that the root of the problem can be traced, at least in part, to our elementary and secondary schools. These statistics, a product of comprehensive national testing, reveal that there is a remarkable gap in math and science achievement scores between male and female students; and as the grade level increases, so does the achievement disparity. In short, in the areas of science and math, schools are failing our female students, in every sense of the word.

If the textbooks analyzed in this study are any indication, this educational deficiency will probably be with us for years. Not one of the math methods texts analyzed made any reference to sex differences in

math achievement, to the many problems that may confront female students in this area, or to the very real stereotyping of math as a "male" domain. This oversight is all the more regrettable because math has become, in effect, the critical filter that prevents many females from integrating all those prestigious careers we listed above.

The process works this way: As girls progress through secondary school, they elect to take fewer and fewer math courses. By the time they graduate from high school, many female students lack the appropriate math prerequisites for entrance into most college-level math and science courses. This avoidance of high school math courses presents college-bound female students with a difficult choice: enroll in remedial and basic college math courses, or avoid majoring in science or math entirely and pursue a career in the humanities, social sciences or the arts. The vast majority choose to continue avoiding math. In effect, math is filtering female students out of the very careers that offer them the greatest future employment potential.

Several educators are attempting to confront this math anxiety which has become so damaging to so many females. A variety of institutions around the country have developed programs which attempt to reduce and eliminate the barriers that discourage females from enrolling in math courses. Through innovative curriculum development and instructional strategies, these programs attempt to eliminate fear and avoidance of math and to encourage females to explore courses and careers in this area.

Prospective teachers reading these math methods texts would discover not one reference, not one word devoted to these programs or the problems so many girls face in math. There is not a single reference to sexism in math, in school, or in society. In fact, only one of the texts includes any mention of sex differences. Grossnickle and Reckzeh indicate that several studies at the elementary level suggest that both girls and boys expressed favorable attitudes toward mathematics. For these authors, there are no sex differences and the potential problems confronting girls in mathematics are simply not an issue. (See Tables 9 and 10.)

In general, the texts analyzed also avoid any reference to the experiences or contributions of females. The only inclusion of female names is in the context of sample problems and sample classroom activities, when hypothetical names are used. In many instances, mathematical sets are developed on sex-segregated and sex-stereotyped bases:

> "The set of pretty girls is well defined." (Grossnickle and Reckzeh)
>
> "All the good-looking girls in Brownsville school." (Heddens)

All these texts are dominated by the content of mathematics, to the virtual exclusion of other pertinent issues. While devoting chapter after chapter to mathematical concepts and procedures, the texts offer a minuscule amount of information on the nature of learners and their individual needs.

TABLE 9

Math Methods Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages of Book Discussion Concerning Each Sex M:F	*Figures in Illustrations M:F
1. Grossnickle & Reckzeh	2:0	4:1	2:1	1:16
2. Heddens	2:0	4:1	3:1	1:10
3. Marks et al.	0:0	n/a	1:2	3:20

*There are only seventeen figures in the Grossnickle and Reckzeh text.

TABLE 10

Math Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Grossnickle & Reckzeh	0	0	0	0.3%	0	0.1%
2. Heddens	0	0	0	0.0%	0	0.0%
3. Marks et al.	0	0	0	0.0%	0	0.0%

These math methods texts are the core of what future teachers learn about teaching math to children. By not including such issues as sexism and sex differences, the texts abandon their responsibility to provide teachers with strategies to help many female students increase their success in mathematics. While educators continue to be concerned with "Why Johnny Can't Read," the authors of these texts have not even begun to ask, much less answer, "Why Jane Can't Do Math."

"Why Jane Can't Do Science" was the next unanswered (and for the most part, unasked) question that we encountered. The problem faced by many females in the sciences is not a topic in two of the three science texts analyzed. In the third text, by Rowe, it receives passing mention under a title "A Special Handicap." In a book 500 pages long, only six sentences are devoted to this issue. The entire section is quoted below:

> A Special Handicap
>
> Girls at all socioeconomic levels act with respect to science as though they were handicapped. They know less, do less, explore less, and are prone to be more superstitious than boys. It is tempting to speculate that one reason so little science is being given to the groups who most need it may be related to the feeling of low confidence so many women have when it comes to science. Wouldn't it be too bad if our children were kept in a deficit condition because many of their teachers do not know or understand what the treatment could accomplish for them?
>
> We are the doctors who must fight for help while it can still do some good for the handicapped. The research suggests what we must do; why don't we?
>
> (Rowe, p. 69)

Despite the author's plea, it is unlikely that beginning teachers could respond effectively to the needs of female students based on these two paragraphs. It is also unlikely that many readers would appreciate the real nature of sex differences based on Rowe's single sentence on the topic, asserting that girls "know less, do less, explore less, and are prone to be more superstitious than boys." As superficial as this treatment appears, we must be quick to point out that in all three science texts (and in the three math texts) analyzed, this is the only comment on this issue. (See Tables 11 and 12.)

With the exception of the brief comments offered by Rowe, females comprise the invisible students in science classes. The implicit message in these books for those studying to become teachers is unfortunate: there is no need to be concerned about difficulties female students may experience in the area of science. This goes against impressive and depressing evidence that science is failing our female students. In fact, the most comprehensive national assessment of educational achievement (National Assessment of

TABLE 11

Science Methods Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages of Book Discussion Concerning Each Sex M:F	Figures in Illustrations M:F
1. Blough & Schwartz	21:1	2:1	9:1	2:1
2. Gega	5:1	2:1	12:1	1.7:1
3. Rowe	n/a	2:1	3:1	2:1

TABLE 12

Science Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Blough & Schwartz	0.2%	0.000%	0.00%	0.40%	0.00%	0.00%
2. Gega	0.0%	0.000%	0.00%	0.09%	0.00%	0.10%
3. Rowe	0.0%	0.006%	0.01%	1.20%	0.03%	0.05%

Educational Progress) indicates that the problems confronting so many females in science are actually becoming more acute. The NAEP report describes the problem this way:

> On a variety of (science) exercises, the 1972-73 results for females can only be considered incredible. While 70 percent of the thirteen-year-old males knew that the use of a compass is related to the earth's magnetic field, only 54 percent of the females answered correctly. On an exercise dealing with alternating and direct current, 13 percent fewer seventeen-year-old females than males knew the answer in 1969-70. In the second assessment, this difference has increased to 18 percent.[1]

Of all the twenty-four textbooks analyzed in this study, those in science and math reflect the least sensitivity to problems confronting females. In spite of the substantial research findings and popular knowledge of the failure of math and science to meet the needs of these children, these texts offer little hope that tomorrow's teachers will be aware of, much less respond to, these critical needs.

Several bibliographic entries in Appendix D offer information on sex equity in math and science (Campbell, Dwyer, Fennema, Kaminsky, Maccoby and Jacklin, Sherman, Donady and Tobias, McClure, Perl, Styer, and others). Recently the area of math has generated an enormous amount of research and program development concerning nonsexist teaching and instruction. Textbook authors and teacher educators should know about these resources so that they can inform future teachers.

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[1] As quoted in Educational Digest, 31 (January 1976), p. 12

SOCIAL STUDIES METHODS: Sensitivity without Substance

Two social studies methods texts were analyzed:

Jarolimek, John. Social Studies in Elementary Education, 5th ed., Macmillan, 1977.

Michaelis, John. Social Studies for Children in a Democracy: Recent Trends and Developments, 6th ed., Prentice-Hall, 1976.

> For a variety of reasons, the traditional roles of men and women in society have undergone great changes in the second half of the twentieth century, resulting at long last in the emancipation of women. The independence of women, which without question is one of the most significant developments of our time, has many implications for social studies education in the elementary school.
>
> (Jarolimek, p. 14)

This passage, taken from one of the two elementary social studies methods texts which dominate the field, provides a useful insight into the treatment women receive in these books. Each text reflects a sensitivity to the struggle for equality and each text sets a tone of moral support; yet each text spends little time on the issue of sexism and teach text talks in generalities. Following the two sentences quoted above, the reader finds only three brief, explanatory paragraphs.

In these paragraphs, Jarolimek points out that schools and reading materials unfortunately have contributed to sex-role stereotyping, and he indicates that today we are witnessing a significant change in the role of women in America. Although the effort to achieve sex equity is described as "one of the most significant developments of our time," one which "has many implications for social studies education in the elementary school," it is evidently left to the intuitive powers of the reader to discern why this movement is so important and precisely what these many implications are. The reader is alerted but not told where to look or what to do.

Superficial and brief treatment also characterizes the Michaelis text. In the preface, the author highlights ten new developments in social studies that have been included in this latest revision. One of these is "equality for women." Yet in the very first chapter, this issue is discussed under the subheading "Ethnic Studies, Equality for Women," and given seven lines. Within a few sentences, the evils of sex stereotyping are alluded to, and the reader is encouraged "to make such values as freedom, equality, and justice equally applicable to all individuals regardless of sex" (Michaelis, p. 23). But just how is a notice teacher to appreciate, much less implement, a sex-fair social studies program based on a few sweeping generalizations? Neither author demonstrates confidence in the beginning teacher's ability to construct a bulletin board or develop a unit on Japan. Detailed instructions

and suggestions for each of these activities run on for pages and pages. Yet within each text, the total discussion devoted to the nature and elimination of sexism is well below 1 percent. (See Tables 13 and 14.) If it is important to provide specific instructions on developing bulletin boards and units, surely it must also be important to provide teachers with specific strategies for nonsexist teaching.

TABLE 13

Social Studies Methods Textbooks

Ratio of Emphasis Awarded Males and Females
in Reference Sources, Narrative, and Illustrations

Texts Analyzed	Index Listings M:F	Footnote & Bibliographic Citations M:F	Pages in Books Discussion Concerning Each Sex M:F	Figures in Illustrations M:F
1. Jarolimek	2:1	2:1	1:2	1:1
2. Michaelis	2:1	3:1	1.8:1	1.6:1

TABLE 14

Social Studies Methods Textbooks

Space Allocation: Issues Concerning Females

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Females	Sexism	Sex Differences	Percentage of Content Concerning: Experiences & Contributions of Females	Sexism	Sex Differences
1. Jarolimek	0.4 %	0.4%	0	0.8%	0.6%	0.00%
2. Michaelis	0.0%	0.1%	0	0.6%	0.3%	0.03%

This lack of specificity is disheartening because the social studies are a rich source of information, a natural place in the elementary curriculum to teach about the role of women and the issue of sex bias. Research demonstrates the omission of women from social studies textbooks. Current elementary texts tell the story of a nation created, maintained and led by men. Teachers interested in giving a better picture and sharing with students the experiences and contributions of women will find neither guidance nor resources in these social studies methods texts.

Nor will the beginning social studies teacher learn how to counter the sexist attitudes and behavior found in school and society. While the teacher is presented with considerable information concerning the most appropriate techniques for teaching about the use of color in maps, no space can be found to discuss classroom strategies to combat the unfair effects of sex-role stereotyping.

On the other hand, there are bright spots in each text. Michaelis, for example, employs a writing style which noticeably avoids the use of sexist nouns and pronouns and generally reflects a nonsexist language pattern. In addition, although only a brief discussion of sexism is provided by Jarolimek, he does manage to point out that sexism is a two-edged sword and males are also victims of sex-role stereotyping. Both authors provide the surface gloss that promises to help teachers understand and counteract sexism. Unfortunately, the promise is unfulfilled; there is little more than a brief and simplistic discussion of sexism and the role of women. What the reader does find is a sensitivity to the topic. But it is a sensitivity without substance.

Several references in the bibliography in Appendix D provide the missing information (Campbell, Grambs, MacLeod, the Council on Interracial Books for Children). These resources should be helpful to textbook authors as well as instructors in the field of social studies methods.

LANGUAGE: Shaping Reality

Several studies show that language serves to determine perception of reality. Consequently, the language authors use may function to shape and limit the very content of text narrative. One segment of our analysis focused on language to determine if it was characterized by male-oriented nouns and pronouns and by stereotyped references.

Of the twenty-four books analyzed, twenty used the pronoun he and supposedly generic nouns such as man and mankind to refer to all people. For example:

> One of man's great intellectual achievements
> As man mastered his environment
> Early man used measurement
> Man's relationship with his natural and manmade surroundings
> The child who loves to read is father to the man who keeps informed through reading.
> A study of Socrates, a man whose influence on the minds of men still ensures
> Postman, policeman, salesman, fireman
> Men of science
> Modern man
> The white man
> The red man
> Primitive man
> Brotherhood of man

Stereotypically, while several of the texts used man and he to encompass all people, teachers and librarians were referred to as she. A few of the texts inserted disclaimers, such as "For the sake of easier reading, instead of writing 'he/she,' it is understood that the pronoun 'he' refers to boys and girls" (Marks et al., p. 13).

We want to point out that the issue goes beyond facility in reading to the subtle way the pronoun he may determine the tone and even shape the very content of the narrative. It's a fascinating trap, and Marks et al. fall right into it. In Teaching Elementary School Mathematics for Understanding, there is a discussion of sets:

> Many experiences with sets may be identified in the life of the young child. He and his brother have matching sets of toy soldiers; his set of eating utensils has fewer members than his parents' set; he joins his set of blocks with his friend's set to build a big castle; he leaves a game taking his set of marbles with him; his set of fingers and toes match exactly; he loses a wheel off his toy car and finds fewer wheels in this set than in the set of wheels for another car; he counts the members of sets to find how many there are; in playing with his dump truck, tractor and crane, he finds this set of toys has three members regardless of the order in which he counts.
>
> (Marks et al., p. 39)

Through use of the generic he and his, a male context is generated in this paragraph--one that has room for toy soldiers, blocks, marbles, cars, dump trucks, tractors and cranes but not for dolls, crayons, coloring books, jump-ropes or jacks. What has happened here is a subtle process--but a significant one. The imagery generated by use of he is male oriented, and by the conclusion of the paragraph the generic child identified in the topic sentence has become a boy.

This process, through which he, his, him, man, mankind and brotherhood affect the tone and content of the narrative, occurs again and again throughout these texts. Ultimately, it may have some impact in shaping a content that focuses on the achievements of Vergerius and neglects Maria Montessori, that leaves out the issue of sexism and the educational history of half the population. The linguist Benjamin Whorf comments on the subtle but powerful effect of language in shaping the mind's (or the text's) creation of reality:

> Language is more than a reflection of the structural arrangements in society; it is intimately linked to the creation and perception of reality itself. Eliminating biased terminology is one concrete way to change and to correct the way we view ourselves and others.

Watch Your Language

The following examples give some indication of the way language may reflect sexist attitudes and assumptions. We realize the danger of taking selections out of context, so we have been careful to make sure that all examples cited are in no way dependent on the surrounding narrative for their meaning and impact.

> Teachers could make use of many parents of the children in their rooms. Some fathers could help the third-grade boys make birdhouses easier than the teacher could; some mothers could teach sixth-grade girls how to knit; many mothers would be glad to drive a carload of children to the airport, to the museum, or to the public library.
>
> (Zintz)

Following are kernel sentences recommended for teachers to use in transformational grammar activities:

> John works.
> Julio gardens.
> Mary teaches.
> Ramon farms.
> Enrique drives a truck.

Mr. Jones practices law.
Marianna cooks.
Mrs. Chacon makes dresses.
Mr. Acosta plays chess.
Larry studies at the university.

(Zintz)

If all the boys in a high school class routinely get distracted when a curvaceous and provocative coed undulates into the room to pick up attendance slips, tape the attendance slips to the outside of the door.

(Biehler)

A thirty-three-year-old girl. . .

(Heddens)

Women with higher levels of educational training work for intellectual reasons and notions of self-fulfillment.

(Johnson et al.)

Parenthetically, if it were not for automation all women over twenty years of age in the U.S. would have to be telephone operators to handle all the phone calls made each day.

(Johnson et al.)

ILLUSTRATIONS: Facade of Equality

One might anticipate that in the illustrations for these texts, women would be at best underemphasized, and at worst ignored entirely. In several texts this is true. In the illustrations found in the reading methods text by Durkin, there are five times more males than females. The surprise is that Durkin is an exception. In most of the texts analyzed, the number of male figures in illustrations is equal to or only slightly greater than the number of females.

A somewhat unusual treatment is found in the Grossnickle and Reckzeh math text, which contains sixteen female figures and only one male figure. This overwhelming numerical disparity is in part a function of the very limited number of figures in this particular book. Unfortunately, most of the females portrayed are involved in stereotypic activities. The preponderance of females in this math text's illustrations is in contrast to the book's content, which devotes not a single word to the role of women or the issue of sexism. This contradiction between nonsexist illustrations and sex-biased content is found in most of the teacher education texts analyzed.

Why the contradiction? One can only guess at some explanations. The illustration program for most of these books consists mainly of photographs. Photographs depict reality, and reality consists of both women and men. When line drawings were used, however, the imbalance between males and females was much greater. Another explanation might point out the relative ease for an author or editor to include illustrations which reflect both sexes and how much more difficult it is to respond equitably in the book's content and structure. The result is sex-fair illustrations set in male-oriented books. At best, these illustrations provide a hopeful sign of some awareness of the need for sex equity. At worst, they provide little more than a facade of equality.

GUIDELINES FOR TEACHER EDUCATION TEXTS

The twenty-four texts analyzed in this study reach thousands of prospective teachers annually. They can provide these teachers with a thorough understanding of the issue of sexism; they can encourage commitment to sex equity in education; they can help future teachers develop the curricular and instructional skills needed for sex-fair teaching. The potential of positive teacher education texts is tremendous. However, it is potentially not yet realized.

The most space any text gives to the issue of sexism is 1.7 percent. Several texts do not mention the topic. Through stereotypes, omission, and imbalanced coverage, these texts are abdicating their responsibility to effect positive change. Both teachers and children deserve something better.

We have attempted to document specifically how teacher education texts are failing teachers on the issue of sex equity. Following are guidelines developed as a result of our research. We hope that these guidelines, along with the preceding discussion of our findings, will be helpful when widely used textbooks are revised and when new textbooks are developed. Appendix D is an annotated bibliography; the books included contain information on sexism in education that will be helpful to authors and publishers in their efforts to create sex-fair teacher education texts.

Some of the following guidelines have application to all texts, not just to those in the field of teacher education. We urge teacher educators, authors and editors to review several of the guidelines already developed by publishing companies. These will provide more information on general principles that apply to the creation of sex-fair texts in all fields of study. Other guidelines noted below are based directly on findings from this study and are specifically related to the development of sex-fair teacher education books.

Authors and editors should keep in mind the following guidelines:

1. <u>Provide a balanced and accurate portrayal of contributions women have made to education and, when pertinent, to related fields</u>.

Does the text reflect the contributions that women have made to education as theorists, innovators, researchers, authors and practitioners?

Does the text note the experiences and accomplishments of women such as Mary McLeod Bethune, Elizabeth Blackwell, Prudence Crandall, Emma Hart Willard, Catherine Beecher, Mary Lyons, Jane McCurtain, Myrtilla Miner, Maria Mitchell, Elizabeth Peabody, M. Carey Thomas, and Ella Flagg Young?

Does the text include the efforts and accomplishments of women from racial and ethnic minority groups?

These contributions should be included in texts in educational psychology and foundations of education. If methods texts note contributions of individuals to the various fields such as social studies or mathematics, the achievements of women should be included.

2. Provide a balanced and accurate portrayal of the barriers that have confronted women in gaining access to and equal treatment in the educational process.

Does the text describe the prejudice and discrimination that women have experienced in their attempts to gain access to and equal treatment in the educational process?

Does the text make it clear when an educational development applied to men only? For example, if the text discusses the Latin Grammar School, does it clearly specify that only boys were allowed to attend?

Does the text describe educational approaches and developments that were particularly pertinent to women? For example, does the text note the opening of the Troy Female Seminary, the evolution of normal schools, and the first colleges and universities to admit women?

Does the text discuss the special barriers that have confronted women from minority populations in their struggle for equal educational opportunity?

These topics fit naturally into the historical treatment provided in foundations texts. Depending on the nature of the discussion, these topics could be included in other texts as well.

3. Provide an analysis of the issue of sexism in its current educational and social context.

Does the text explain what sexism is and how it operates in the educational process? Does the text discuss sex bias in instructional materials? in teacher interaction patterns and expectations? in counseling materials, interactions, and testing procedures? in physical education and athletics? in vocational education? in special education? in educational employment?

Does the text discuss research concerning the impact of sexism on male as well as female students?

Does the text describe programs and developments to counteract the impact of sexism? Is there a thorough and accurate description of Title IX? Does the text note federal programs such as the Women's Educational Equity Act Program?

It is essential that foundations and educational psychology texts include these discussions, which appear to be relevant topics for the methods texts as well.

4. Offer curricular and instructional strategies and resources to help future teachers create sex-fair classrooms.

Does the text offer teachers specific information on how to counteract sexism in schools?

Does the text offer approaches for assessing sex bias in books?

Are there observation systems for assessing sex bias in the classroom--from verbal and nonverbal interaction patterns to bulletin board displays?

Are there instructional approaches, including sample lesson plans, to help teachers involve their students in discussing the issue of sexism in school and society?

Is there discussion of approaches teachers can use to counteract the problems many girls experience in math and science?

Are supplementary resources provided? For example, does a language arts methods text include annotated bibliographies of nonsexist children's books? Does a social studies methods text include resources for studying women in history?

Such curricular and instructional strategies are essential to texts in all methods areas. They are pertinent for introductory and educational psychology texts as well.

5. Provide an up-to-date, accurate, and comprehensive analysis of the research on sex differences.

Do discussions of psychological sex differences include a thorough review of contemporary research in this area?

Is there a thorough and balanced analysis of factors that may cause and/or intensify sex differences?

Is there clear differentiation between myth and reality in the area of sex differences? Does the text identify those areas in which there is not sufficient evidence to support conclusions about sex differences?

Does the text caution teachers about using sex differences information to make stereotyped generalizations about females and males? Does the text emphasize the variability inherent in individual human differences?

Are studies on achievement motivation that involve female populations included and discussed?

Does the text avoid using research based on a single-sex population to make conclusions about both sexes?

Are sex difference studies pertaining to minority group populations included?

This topic is essential for educational psychology texts and for several of the methods areas as well. It may also be pertinent for foundations books.

6. Integrate information on women, sexism and related issues throughout the text rather than segregating these issues in separate inserts or sections.

Does the text integrate information on sexism, women and related topics throughout the book as appropriate to the various topics discussed? For example, if an introductory text is discussing gifted learners, is there mention of bias in recognizing gifted female learners? In a chapter on legal issues in education, is Title IX included and discussed?

Does the text avoid treating the issue of sexism and related topics in separate inserts or sections? For example, does the text avoid special boxed-off inserts with titles such as "Ten Famous Female Educators"? This approach isolates these topics from the main context of the book and gives out the following message: the experiences and contributions of women provide an interesting sidelight, but they are not an integral or important part of education.

If boxed-off sections on women or sexism are included, do they serve to highlight rather than segregate these topics? For example, if issues related to women are incorporated throughout the text, a separate section or insert may highlight this integrated information. However, if the only or primary source of information on sexism comes through a boxed-off section or special insert, then the ultimate effect is one of fragmentation.

A special insert or brief section offers only a respite of sensitivity; and such fragmented treatment simply does not reflect the breadth and depth of the impact women have had on education. Nor does such a segregated section recognize the fact that half of the students being educated are female. In order to be effectively recorded, women's issues must be woven throughout the entire fabric of teacher education texts in all areas, and not relegated to a back pocket.

7. Provide equitable representation of females and males in layout, design, and illustrative materials.

Does the design and layout of the text highlight the experiences and contributions of both women and men?

If biographies are incorporated, are both females and males included?

When boxed-off sections and colored ink are used to highlight an individual's experiences and contributions, are both women and men afforded equitable treatment?

Do photographs and other illustrations depict approximately equal numbers of females and males engaged in a wide range of activities?

Is there equitable treatment of minority females and males in layout, design, and illustrations?

If, as the saying goes, the media is the message, it is essential that all teacher education texts reflect equity in their visual presentation as well as in their verbal statements.

8. Avoid promoting sex bias through use of sexist language construction.

Does the text avoid terms such as mankind and he to refer to all people as though these terms were gender-free generics?

Does the text avoid reference to adult females as girls?

Does the text avoid patterns of reference that consistently place males first (men and women, boys and girls, he or she)?

Does the text avoid sexist terms such as policeman and mailman? Instead, are bias-free alternatives, such as police officer and mail carrier used?

Many textbook publishers have issued guidelines with extensive sections on sexism in language and how to avoid it. However, if language usage in the twenty-four texts we analyzed is at all representative, a major effort must be made to close the reality gap between the publishers' guidelines and the publishers' books.

9. Portray characters who exhibit a full range of behaviors, abilities, values and roles, and avoid assumptions and generalizations that reflect sex-role stereotypes.

Does the text avoid stereotyping all or most female students as submissive and dependent, as excelling in language arts and reading?

Do women engage in a wide range of activities both inside and outside of the home? Are women shown in a variety of jobs and professions? Are they portrayed as principals as well as classroom teachers?

Does the text avoid stereotyping all or most male students as dominant and independent, as excelling in science and math?

Do men engage in a wide range of activities both inside and outside of the home? Are they shown in a variety of jobs and professions--as kindergarten teachers as well as administrators?

Stereotypes ignore the reality of individual differences. Some men are principals. So are some women. Some girls excel in reading. So do some boys. It is essential that all teacher education texts reflect this reality and avoid the limiting mythology of sex-role stereotypes.

WHAT CAN I DO NEXT SEMESTER? Suggestions for Teacher Educators

The major purpose of this study and its guidelines is to encourage authors and publishers to produce sex-fair teacher education textbooks. But as educators know all too well, progress does not always come quickly. And in the real world, the tide of new teachers entering the profession does not wait for better, fairer books. If these new teachers are to learn about sex equity in education now, they must turn to sources other than the current crop of best-selling teacher education texts.

It is important that teacher educators begin the process of preparing teachers to develop sex-fair classrooms where all children have the opportunity to realize their potential. To this end, we offer the following suggestions.

Supplementary Materials

The annotated bibliography in Appendix D is directed at providing teacher educators with a varied and relevant source of materials for the preparation of nonsexist teachers. These materials can be used to supplement teacher education texts that do not adequately address the issue of sex equity. In addition, the Education Development Center (EDC) is the dissemination center for projects funded by the Women's Educational Equity Act Program, U.S. Office of Education. Many of these materials are appropriate for teacher educators and can be obtained at a modest cost. For a free brochure, write to

Education Development Center
55 Chapel Street
Newton, Massachusetts 02160

Additional materials related to sex equity are available from the Government Printing Office, Washington, D.C. A catalogue listing their materials is also available.

Classroom Activities

Following are some instructional strategies that teacher educators can adopt or adapt for nonsexist teacher preparation. This list is just a beginning, and many other activities are possible.

1. Term papers and course projects can be focused on topics related to sexism in education. Such topics can range from studies on sex differences to analysis of sex bias in curricular materials; from nonsexist teaching strategies to the contributions of women educators.

2. In student teaching, microteaching, or other practicuum activities, students can be asked to observe classrooms for evidence of sexist teaching behaviors. These focused observations could include

- frequency and nature of teacher interactions with female and male students

- teacher's use or avoidance of sexist nouns and pronouns

- teacher assignment by sex for such classroom activities as group work, seat assignments, lining up, and recreational activities

- the organization of competitive events--academic, athletic and other--based on sex

- the representation of males and females on bulletin boards and other classroom displays

3. Local resource persons can be invited into the teacher education classroom to address issues related to sexism in education. These individuals can share expertise in areas such as sex-equity legislation, development of nonsexist curriculum, new developments in sex-fair physical education, etc.

4. Using the categories and procedures outlined in Appendix A, teacher education students can content-analyze their college textbooks for sex bias. The various sections of the text can be divided among the students, and the results compiled and shared to determine the degree of sex bias in the entire textbook. These results as well as their implications for classroom teaching can be discussed.

5. Teacher education students can develop competency-based objectives and modules for nonsexist teaching.

6. In microteaching or other practicuum settings, teacher education students can practice and refine sex-fair teaching behaviors.

7. Teacher education students can develop instrumentation to evaluate elementary and secondary curriculum for sex bias. Also, existing assessment materials can be used for this purpose.

8. Teacher education students can develop lesson plans, units, and learning centers that are related to issues of sex equity.

9. Teacher educators and their students can develop a center of nonsexist materials appropriate for students at various grade levels--elementary, secondary, and higher education. This center can be shared with colleagues in education as well as in other disciplines.

10. Teacher educators can share this monograph with students and colleagues to encourage them to explores resources for sex equity in teacher education.

Marshall McLuhan has said, "we must understand that a totally new society is coming into being, one that rejects all our old values, conditioned responses, attitudes and institutions." It is the job of educators to prepare students to meet, comprehend, grow, and change with this ever growing and changing society. And at its heart this is what the eradication of sexism in school and society is all about. In this endeavor, the role of teacher educators is uniquely critical. They have the opportunity to reach all levels of education. They cannot afford to wait for the newer, fairer textbooks of the 1980s. For them, the future is now.

APPENDIX A: RESEARCH METHODOLOGY

In order to identify the nation's best-selling and most influential teacher education textbooks, thirteen education editors of the major publishing companies were contacted by phone, by mail and through personal interview. Each editor was asked to list the most widely adopted teacher education textbooks in the seven designated areas. There was a high degree of consensus in their selection. Their responses indicated that in some fields just two or three books dominate the market, while other fields are more fragmented and half a dozen or more texts share the market. Based on the responses of the education editors, twenty-four texts from eleven different publishers were selected for analysis. All texts selected were published between 1973 and 1978. Since Title IX was enacted in 1972, it would be reasonable to expect that these texts would include information on sex equity in education. (Appendix B lists the twenty-four teacher education textbooks selected for content analysis.)

Although the content analysis procedure has been used effectively in elementary and secondary school texts, there existed no instrument specifically designed for analysis of teacher education materials. Therefore, the investigators, using the recommendations of nationally recognized experts (see Preface) in the fields of content analysis, teacher education and educational equity, developed instrumentation specifically designed for teacher education. The completed instrument consisted of seventy-two items providing for in-depth analysis in four major areas: Content, Research Framework, Language, and Illustrations. A detailed Rater's Manual was also developed to provide thorough instructions for use of the instrument.

A team of twelve raters was trained in the use of this instrument. Each rater participated in four hours of training, which was followed by a trial content analysis of a teacher education text not included in the study. Follow-up sessions were held to eliminate rater discrepancies and to respond to questions resulting from the practice sessions.

Each text was analyzed by at least two raters working independently. Inter-rater reliability was set at 85 percent agreement. (The nature of a content analysis investigation lends itself to a measure of percentage of agreement rather than the use of an inter-rater reliability coefficient.) When inter-rater agreement did not reach 85 percent, an additional rating was undertaken by a third rater. Twelve months were needed to analyze all twenty-four texts at an inter-rater agreement level of 85 percent or higher.

The raters analyzed the entire narrative of each of the twenty-four texts to determine space allocation of the following five categories: Sexism; Experiences and Contributions of Females; Sex Differences; Total Content Concerning Males; and Total Content Concerning Females. The raters made a line-by-line count of content allocated to each of these topics and the total number of lines was entered as the number of pages or as the percentage of a page. The raters also determined the number of index citations in each of these areas. (These categories are defined in the following section on terminology.)

The raters also counted the number of males and females who were cited as authors in the footnotes and bibliographic entries. The raters counted the total number of females and males in the illustrations. They analyzed language used in each of the texts by counting the number of supposedly generic pronouns and nouns, such as he, mankind, forefathers, and policeman.

Terminology

The data presented on the tables and figures in this monograph are reported within the five categories noted above. In order to aid the reader in understanding and interpreting the study's results, the following brief definitions are provided.

Sexism: Topics specifically concerned with the nature and impact of sex discrimination, sex bias, and sex-role stereotyping are included in this category. Topics concerned with redressing or counteracting sexism are also included: Title IX; judicial decisions related to sex equity; and curricular materials and instructional procedures the teacher can utilize to combat the impact of sexism.

Experiences and Contributions of Females: Topics related to the contributions and experiences of individual females as well as females as a group are encompassed in this category. Examples of such contributions are the educational principles of Maria Montessori; the creation of the dame schools; and studies referred to as the work of a female researcher. Examples of experiences are discrimination women faced in gaining entrance to universities and employment patterns showing the increasing numbers of women in the paid labor force.

Sex Differences: This area includes research studies and direct comparisons related to sex differences or similarities in such areas as intelligence, behavior, interests, abilities, motivation, talents, and career aspirations.

Total Content Concerning Males/Total Content Concerning Females: These two categories reflect the total number of pages allocated to males and to females within the entire book. Total content concerning males encompasses content allocated to men in general as well as content concerning every male name cited. It includes content related to real as well as to hypothetical individuals. Total content concerning famales pertains to content allocated to females in general as well as content pertaining to every female name cited. Content related to real as well as to hypothetical individuals is included.

It is important to draw a distinction between this category as it applies to females and the one entitled "Experiences and Contributions of Females." In order for a topic to be tallied in the category "Experiences and Contributions of Females," the topic must contain specific information related to females, individually or as a group. However, no such criterion applies to the "Total Content Concerning Females" category, which includes

all space allocation tabulated in "Experiences and Contributions of Females," as well as space referring to any female name, even if the entry offers no information specifically related to females. For example, even if the use of a female name is quite arbitrary--"A test was being given in Ms. Washington's class"--the line is counted as content concerning females.

Special Notes

1. Double Counting: In some cases, a particular topic did not fit precisely into a single category. For example, space concerning a study of sex differences conducted by a female investigator could be counted under both the category "Experiences and Contributions of Females" and the category "Sex Differences." Similar overlapping appeared in several categories. In such cases, the topics were tallied under all relevant headings. This process resulted in giving all authors the highest possible recognition for inclusion of materials pertinent to the categories under analysis. The figures reported in the tables are therefore somewhat inflated. However, it was determined that in cases where allocation of content to a single category was questionable, this process of "double counting" was more rational and equitable than arbitrarily choosing one category or dividing a paragraph in half.

The Tables and Figures in this study report on the very minimal attention paid by the authors to such topics as sexism; however, the figures would be even smaller if "double counting" had not been employed.

2. Names: When the names listed in the index, footnotes, bibliography or content could not be recognized clearly as male or female, the names were not counted in any of the categories. This occurred most often when first initials rather than first names were used, and in some cases when first names were of foreign extraction. When those occurred, "n/a" is recorded on the tables.

3. Ratios: In Tables, ratios below two have been reported to the nearest tenth. Ratios above two have been reported to the nearest whole number.

APPENDIX B: TEACHER EDUCATION TEXTS SELECTED FOR CONTENT ANALYSIS

Foundations of Education or Introduction to Education

James Johnson et al. Introduction to the Foundations of American Education. 3rd Edition. Boston: Allyn & Bacon, 1975.

Robert Richey. Planning for Teaching. 5th Edition. New York: McGraw-Hill, 1973.

Kevin Ryan and James Cooper. Those Who Can, Teach. 2nd Edition. Boston: Houghton Mifflin, 1975.

William Van Til. Education: A Beginning. 2nd Edition. Boston: Houghton Mifflin, 1974.

Educational Psychology

Robert Biehler. Psychology Applied to Teaching. 3rd Edition. Boston: Houghton Mifflin, 1978.

N. L. Gage and David C. Berliner. Educational Psychology. Chicago: Rand McNally, 1975.

Thomas Good and Jere E. Brophy. Educational Psychology: A Realistic Approach. New York: Holt, Rinehart and Winston, 1977.

Methods of Teaching Reading

Martha Dallman et al. The Teaching of Reading. 4th Edition. New York: Holt, Rinehart and Winston, 1974.

Dolores Durkin. Teaching Them to Read. 2nd Edition. Boston: Allyn and Bacon, 1974.

Robert Karlin. Teaching Elementary Reading. 2nd Edition. New York: Harcourt Brace Jovanovich, 1975.

George Spache and Evelyn B. Spache. Reading in the Elementary School. 4th Edition. Boston: Allyn and Bacon, 1977.

Miles Zintz. The Reading Process. 2nd Edition. Dubuque, Iowa: Wm. C. Brown, 1975.

Methods of Teaching Language Arts

Paul Burns and Betty Broman. The Language Arts in Childhood Education. 3rd Edition. Chicago: Rand McNally, 1975.

Sara Lundsteen. Children Learn to Communicate. Englewood Cliffs, New Jersey: Prentice-Hall, 1976.

Walter Petty, Dorothy Petty and Majorie Becking. Experiences in Language. 2nd Edition. Boston: Allyn and Bacon, 1976.

Dorothy Rubin. Teaching Elementary Language Arts. New York: Holt, Rinehart and Winston, 1975.

Methods of Teaching Mathematics

Foster I. Grossnickle and John Reckzeh. Discovering Meanings in Elementary School Mathematics. 6th Edition. New York: Holt, Rinehart and Winston, 1973.

James Heddens. Today's Mathematics. 3rd Edition. Chicago: Science Research Associates, Inc., 1974.

John Marks et al. Teaching Elementary School Mathematics for Understanding. New York: McGraw-Hill, 1975.

Methods of Teaching Science

Glenn Blough and Julius Schwartz. Elementary School Science and How to Teach It. 5th Edition. New York: Holt, Rhinehart and Winston, 1974.

Peter Gega. Science in Elementary Education. 3rd Edition. New York: John Wiley and Sons, 1977.

Mary Budd Rowe. Teaching Science as Continuous Inquiry. 2nd Edition. New York: McGraw-Hill, 1978.

Methods of Teaching Social Studies

John Jarolimek. Social Studies in Elementary Education. 5th Edition. New York: Macmillan, 1977.

John Michaelis. Social Studies for Children in a Democracy: Recent Trends and Developments. 6th Edition. Englewood Cliffs, New Jersey: Prentice-Hall, 1976.

APPENDIX C: THE TREATMENT OF RACIAL AND ETHNIC MINORITIES IN TEACHER EDUCATION TEXTBOOKS: Some Initial Findings and a Call for Further Research

Although the focus of this study concerned the treatment of women, sexism, and related issues, we decided to go beyond this boundary in order to consider the coverage afforded racial and ethnic minorities in these major teacher education texts. We wanted to obtain some indication of the progress made in another area of educational equity, one which predated sex equity in our national consciousness. Using the same approach described in Appendix A, Research Methodology, we tallied index citations and the amount of content space in the following areas: racial/ethnic discrimination, experiences and contributions of racial/ethnic groups, and racial/ethnic differences.

Racial/Ethnic Discrimination: Topics include stereotyping of and discrimination against racial and ethnic groups. As in the case of sexism, efforts directed at combatting such discrimination are also included here. These areas include cultural pluralism; affirmative action; pertinent legal and judicial activities; and curricular materials and instructional procedures the teacher can utilize to combat the impact of discrimination. The racial and ethnic minorities included in this section are Blacks, Hispanics, Native Americans, Asian Americans, and the spectrum of white ethnic groups.

Experiences and Contributions of Racial/Ethnic Groups: Topics related to the experiences and contributions of individual group members as well as the general experiences and contributions of minority groups are included in this category. Examples of contributions are the educational philosophy of W. E. B. DuBois; the work of Native American educators to develop a curriculum that reflects their heritage; and the leadership of Cesar Chavez in union organization. Examples of experiences are the impact of the "melting pot" theory on white ethnics; the difficulties speakers of nonstandard English have in school; and the experiences of black children in segregated schools.

Racial/Ethnic Differences: This area includes research studies and direct comparisons related to racial and ethnic differences and similarities. These areas include intelligence, behavior, interests, abilities, motivation, talents, career aspirations, home environment, and language.

As a result of this aspect of the content analysis, four general findings emerged: 1) In several texts, racial and ethnic minorities were omitted entirely; 2) some textbooks used dated references and stereotypic descriptions when referring to specific minority groups; 3) many books relied on unclear generalizations when discussing minority group children; and 4) the illustrations found in most texts reflected a significant representation of minority figures.

As Table 15 indicates, foundations of education texts include the most coverage of issues concerning racial and ethnic minorities. In contrast, patterns of omission characterize most of the math and science methods

texts analyzed in the study. In fact, four of the math and science books do not include any information about minority group students. The remaining two math and science texts offer but a few paragraphs on this topic, describing in very general terms some of the problems confronting minority group students. In half the texts less than 1 percent of textbook content is devoted to the issue of racial and ethnic discrimination. In these texts, prospective teachers are given little preparation for understanding or working with children from diverse racial and ethnic gackgrounds.

Ironically, the fact that a textbook includes significant coverage of racial and ethnic minorities is no assurance that the treatment is accurate or based on contemporary research and theory. For example, the Zintz reading methods text offers the most coverage of ethnic and racial discrimination but sometimes uses dated references and offers stereotypic portrayals. Thus, in describing "the hard-core lower class," Zintz quotes from a 1962 journal:

> The lower-class Negro family pattern commonly consists of a female-dominated household, with either the mother or the grandmother acting as the mainstay of the family unit. The husband, if present, is often an ineffective family leader. The boy growing up in a Negro family frequently perceives his father as a person with a low status job, who is regarded with indifference or varying degrees of hostility by members of the out-group. In short, the lower-class Negro adult male is seldom regarded as a worthwhile masculine model for the boy to emulate.
>
> (quoted in Zintz, p. 439)

The reliance of the authors on broad generalizations when referring to minority groups represents still another problem found in these books. Umbrella terms such as "culturally different," "disadvantaged" and "low socioeconomic" make sorting out which information refers to which group a constant challenge. In fact, although many readers may envison black or Hispanic children when authors discuss the "disadvantaged," Good and Brophy point out that in their educational psychology text, "probably 80 percent of 'the disadvantaged' are white" (p. 197). Prospective teachers are left to their own resources to sort out the meaning of these terms, and as a result, textbook discussion of America's diverse minority groups often lacks precision and clarity.

The analysis also reveals an obvious discrepancy between the content of these texts and their illustrations. While minorities are underrepresented in or even omitted from text narrative, they are remarkably visible in the illustrations. As Table 15 indicates, in some texts as many as 30 or 40 percent of all the illustrated figures are clearly minority group members. Although 26 percent of the figures in Gega's science methods book are minority group members, there is virtually no discussion related to minorities in the text content. In the Johnson foundations text, 3 percent

TABLE 15

Space Allocation: Issues Concerning Racial and Ethnic Minorities

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Racial/Ethnic Groups	Racial/Ethnic Discrimination	Racial/Ethnic Differences	Percentage of Content Concerning: Experiences & Contributions of Racial/Ethnic Groups	Racial/Ethnic Discrimination	Racial/Ethnic Differences	Minority % of Total Illustrations
Foundations of Education and Introductory Education Texts							
1. Johnson et al.	4.5%	5.0%	2.0%	3.0%	6.0%	1.0%	46.0%
2. Richey	0.3%	0.8%	0.2%	0.7%	3.0%	0.3%	12.0%
3. Ryan & Cooper	0.6%	0.2%	0.0%	2.0%	6.0%	0.2%	13.0%
4. Van Til	5.0%	5.0%	1.0%	4.0%	3.0%	0.2%	39.0%
Educational Psychology Textbooks							
1. Biehler	2.3%	2.8%	0.9%	1.9%	4.2%	0.7%	21.0%
2. Gage & Berliner	0.7%	1.3%	0.9%	1.5%	1.3%	0.5%	13.5%
3. Good & Brophy	0.2%	0.7%	0.3%	0.3%	0.4%	0.2%	34.0%

TABLE 15, continued

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Racial/ Ethnic Groups	Racial/ Ethnic Discrimination	Racial/ Ethnic Differences	Percentage of Content Concerning: Experiences & Contributions of Racial/ Ethnic Groups	Racial/ Ethnic Discrimination	Racial/ Ethnic Differences	Minority % of Total Illustrations
Language Arts Methods Textbooks							
1. Burns & Broman	1.1%	0.80%	2.20%	0.8%	0.60%	0.40%	24.0%
2. Lundsteen	1.8%	2.00%	0.60%	0.9%	3.00%	0.20%	6.0%
3. Petty, Petty, & Becking	1.9%	1.30%	0.70%	1.0%	1.50%	0.10%	7.4%
4. Rubin	0.9%	2.20%	1.80%	0.3%	1.90%	0.50%	18.0%
Reading Methods Textbooks							
1. Dallmann et al.	2.0%	1.40%	1.50%	3.7%	0.70%	0.20%	8.6%
2. Durkin	0.3%	0.80%	0.30%	0.4%	0.30%	0.00%	0.0%
3. Karlin	0.2%	0.07%	0.07%	0.3%	0.08%	0.06%	28.0%
4. Spache & Spache	3.2%	2.20%	3.20%	0.8%	2.00%	1.00%	4.0%
5. Zintz	2.0%	1.00%	1.00%	4.1%	6.80%	1.80%	13.4%

TABLE 15, continued

Texts Analyzed	Percentage of Index Citations Concerning: Experiences & Contributions of Racial/ Ethnic Groups	Racial/ Ethnic Discrimination	Racial/ Ethnic Differences	Percentage of Content Concerning: Experiences & Contributions of Racial/ Ethnic Groups	Racial/ Ethnic Discrimination	Racial/ Ethnic Differences	Minority % of Total Illustrations
Math Methods Textbooks							
1. Grossnickle & Reckzeh	0.00%	0.00%	0.00%	0.00%	0.0%	0.00%	17.6%
2. Heddens	0.00%	0.00%	0.00%	0.00%	0.0%	0.00%	6.9%
3. Marks et al.	0.00%	0.00%	0.00%	0.08%	0.1%	0.00%	24.0%
Science Methods Textbooks							
1. Blough & Schwartz	0.00%	0.00%	0.00%	0.07%	0.0%	0.00%	17.0%
2. Gega	0.00%	0.00%	0.00%	0.00%	0.0%	0.00%	26.0%
3. Rowe	0.03%	0.03%	0.02%	1.00%	0.3%	0.09%	26.0%
Social Studies Methods Textbooks							
1. Jarolimek	1.00%	1.40%	0.2%	1.80%	0.9%	0.00%	6.0%
2. Michaelis	0.40%	0.70%	0.2%	1.50%	2.3%	0.04%	23.0%

of the discussion concerns the experiences and contributions of minorities while almost half of the figures illustrated are minority members. This imbalance is found in varying degrees in the other texts analyzed (with the exception of the Durkin reading methods text, which omits minority figures from its illustrations). The vast majority of these books are illustrating a world they do not discuss.

This imbalance between illustrations and content was also found in the treatment of women, and perhaps some of the explanations provided in that section may also be applicable here. In general, however, these texts devote considerably more content space to issues concerning racial and ethnic minorities than to issues concerning women. Most of the books describe the nature and impact of racism in greater depth and with more detail than the nature and impact of sexism. This does not mean tnat teacher education books get high marks in this area. It simply means that in half the texts the coverage is greater than 1 percent.

Our investigation indicates the need for a comprehensive analysis specifically focused on the treatment of racial and ethnic minorities in teacher education textbooks. Initial findings suggest that these texts are deficient in this area. A more comprehensive analysis can point the way to the development of future texts which more sensitively and accurately portray America's pluralistic society.

APPENDIX D: SELECTED BIBLIOGRAPHY ON SEXISM IN EDUCATION*

Section I: An Overview of Sexism in Education

Arnold, Lois. Sexism in the chemistry curriculum. Curriculum Review, 1977, 16, 180-183.
Sex-role stereotyping and lack of female role models work together to perpetuate feelings of inadequacy on the part of women in chemistry classes.

Bereaud, Susan; Stacy, Judith; and Daniels, John (Eds.). And Jill came tumbling after: Sexism in American education. New York: Dell, 1974.
This is a general anthology of contemporary essays on sexism in American education. It contains an annotated bibliography of further readings and a resource list for action and information.

Dwyer, Carol Anne. Test content in mathematics and science: The consideration of sex. Paper presented at the 60th annual meeting of the American Educational Research Association, San Francisco, April 1976. (ERIC document number: ED 129 886)
This paper discusses sex-role stereotyping and implications for tests in math and science.

Fennema, Elizabeth, and Sherman, Julia. Sex-related differences in mathematics learning: Myths, realities, and related factors. Paper presented at the annual meeting of the American Association for the Advancement of Science, Boston, February 1976. (ERIC document number: ED 129 633)
This paper discusses research concerned with sex differences related to mathematical achievement.

Frazier, Nancy, and Sadker, Myra. Sexism in school and society. New York: Harper and Row, 1973.
This book is addressed specifically to teachers and provides an overview of the basic issues related to sexism in education. It includes an annotated bibliography and a questionnaire on sex bias in education.

Gersoni-Stavn, Diane. Sexism and youth. New York: R. R. Bowker Co., 1974.
An anthology of addresses, essays, reports, and resource lists concerning sexism in socialization, schools, toys, and children's literature. Both male and female sex stereotyping is considered.

*Compiled by Ruth S. Garies and Carolyn Dozier

Graham, Alma. The making of a nonsexist dictionary. Ms., 1973, 1 (December).
Reports on American Heritage-Houghton Mifflin computer study of 1,000 textbooks and reading materials used in seventeen different subject areas in grades 3-9 in public, private, and parochial schools across the United States.

Grambs, Jean D., and Waetjen, Walter B. Sex: Does it make a difference? Sex roles in the modern world. North Scituate, Mass.: Duxbury Press, 1975.
Synthesizes research studies concerning sex-role behavior. Topics range from the impact of sex-typing on infants to patterns of bias in schooling, college, and employment.

Greenberg, Selma. Right from the start. A guide to nonsexist child rearing. Boston: Houghton Mifflin, 1978.
Traditional views of child rearing based on sex-role stereotyping are discussed and refuted in this book. Chapters on redefinition of motherhood and fatherhood, and the restructuring of the family are included.

Henley, Nancy, and Thorne, Barrie (Eds.). Language and sex: Difference and dominance. Rowley, Mass.: Newbury House, 1975.
A collection of articles and essays on sex differences in language, speech and nonverbal communication, with detailed bibliography.

Kaminski, Donna M. et al. Why females don't like mathematics: The effect of parental expectations. Paper presented at the annual meeting of the American Sociological Association, New York, August 1976. (ERIC document number: ED 134 530)
This report presents evidence from a longitudinal study that early socialization in the family results in differential mathematical career outcomes for males and females.

Maccoby, Eleanor Emmons, and Jacklin, Carol Nagy. The psychology of sex differences. Stanford, Calif.: Stanford University Press, 1974.
A comprehensive review of the research findings on psychological sex differences.

Miller, Casey, and Swift, Kate. Words and women: New language in new times. Garden City, N.Y.: Doubleday, 1976.
Deals with the various ways in which sex bias is built into the English language. Summarizes problem areas and suggests solutions.

Project on Equal Education Rights. Stalled at the start. Washington, D.C.: NOW Legal Defense and Education Fund, Inc., 1977.
An analysis of HEW's failure to adequately enforce implementation of Title IX.

Reed, Linda, and O'Donnell, Holly. Not for women only: ERIC/RCS Report. Language Arts, 1978, 55 (2), 223-229.
This report discusses sex-role stereotyping and its effect upon children. It describes eleven ERIC documents which deal with this topic.

Rossi, Alice S. The feminist papers. New York: Bantam, 1974.
A collection of critical documents in feminist history, spanning two centuries.

Sherman, Julia A. Girls' attitudes toward mathematics: Implications for counseling. Paper presented at the 84th annual convention of the American Psychological Association, Washington, D.C., 1976. (ERIC document number: ED 134 920)
Two thousand 6th-to-12th-grade boys and girls were administered tests of mathematics aptitude and tests to measure the strength of sex-role stereotyping. Results at all levels showed no sex-related differences in math aptitude but subjects of both sexes saw math as a male domain.

Sherman, Julia, and Fennema, Elizabeth. The study of mathematics by high school girls and boys: Related variables. American Educational Research Journal, 1977, 14 (2), 159-168.
This study focuses upon current math students' intent to enroll in further mathematics courses. Significantly more males than females planned to take more math courses. This was especially true among those students in the lower half of the achievement distribution.

Simpson, Christina J. Educational materials and children's sex-role concepts. Language Arts, 1978, 55 (2), 161-167.
This is a review of research on the development of sex-role concepts in children and the effects of educational materials on children's sex-stereotyped thinking.

Sprung, Barbara. Perspectives on nonsexist early childhood education. New York: Teachers College Press, 1978.
This book deals with sexism and its effects in early childhood education. It includes suggestions for ways in which teachers and parents can combat sexism in the classroom.

Stock, Phyllis. Better than rubies. New York: G. P. Putnam's Sons, 1978.
This is a history of female education in the Western world from the Renaissance to the present.

U.S. Department of Health, Education, and Welfare. The National Project on Women in Education. Taking sexism out of education. Washington: U.S. Government Printing Office, 1978.
This is a collection of articles from a series originally published in American Education, April - July 1977. Topics included are legal aspects (Title IX) of sexism, sexism/sex bias in the schools and school curriculum, the role of the school counselor in helping to eliminate sex bias, vocational equality, and changing male sex roles. Most of the articles contain suggestions and strategies for effecting change.

Section II: The Portrayal of Females and Minorities in Instructional Materials

Britton, Gwyneth E., and Lumpkin, Margaret C. For sale: Subliminal bias in textbooks. (ERIC document number: ED 140 279)
Despite publications of guidelines by textbook publishers, this analysis shows that little change has been made in the coverage accorded females or ethnic minority group members.

Blyer, Mary Gloyne (Compiler). American Indian authors for young readers: A selected bibliography. New York: Association on American Indian Affairs, 1973.
After studying over 600 children's books, the Association on American Indian Affairs recommended only 63, rejecting most of the others because the content or illustrations were conspicuously offensive.

Carlsen, Julie Ann. A comparison of the treatment of the Negro in children's literature in the periods 1929 - 1938 and 1959 - 1968. Storrs: University of Connecticut, 1969. (Unpublished doctoral dissertation, DA A30:3452-A)
This study revealed less stereotyping in the later period investigated but the literature still failed to adequately reflect the black experience.

De Crow, Karen. Look, Jane, look! See Dick run and jump! Admire him! In S. Anderson (Ed.), Sex differences and discrimination in education. Worthington, Ohio: Charles A. Jones, 1972.
An analysis of a series of social studies books produced by ten publishing houses revealed no women working outside the home except as teachers or nurses.

Falkenhagen, Maria; Johnson, Carole; and Balasa, Michael A. The treatment of Americans in recent children's literature. Integrated Education, 1973, 11 (July), 58-59.
The results of this analysis suggest that stereotyping of Native Americans is still commonly found in children's literature today.

Garcia, Jesus. From bloody savages to heroic chiefs. American Indian Education, 1978, 17 (2), 15-19.
This is a report of a content analysis of five U.S. History texts for stereotypic phrases applied to American Indians. The conclusion is that the portrayal of Native Americans has not changed significantly between 1956 and 1976.

Graebner, Diane Bennett. A decade of sexism in readers. Reading Teacher, 1972, 26 (1), 52-58.
The stereotype of women in elementary reading texts has changed little from the early 1960s to the early 1970s.

Grund-Slepack, Donna, and Berlowitz, Marvin J. Sex-role stereotyping in East German versus U.S. textbooks. Reading Teacher, 1977, 31 (3), 275-279.
There appears to be less sex stereotyping in East German reading texts compared with those of the United States.

Larrick, Nancy. The all-white world of children's books. Saturday Review, 1969, 48 (September 11), 63-65, 84-85.
This study of children's books published between 1962 and 1964 showed that 93 percent of them did not include a single black character.

MacLeod, Jennifer S., and Silverman, Sandra T. "You won't do!" What textbooks on U.S. government teach high school girls, with Sexism in textbooks: An annotated source list of 150+ studies and remedies. Pittsburgh: KNOW, Inc., 1973. Available from KNOW, Inc., P. O. Box 86031, Pittsburgh, Pa. 15221.
This book reports the results of content analyses of eight popular texts used in high school government/civics classes. It includes recommendations for more equitable treatment of women in textbooks.

Stewig, John, and Higgs, Margaret. Girls grow up to be mommies: A study of sexism in children's literature. Library Journal, 1973, 98 (2), 236-244.
An analysis of 154 randomly selected picture books revealed that 83 percent showed women in homemaking roles only.

U'Ren, Marjorie B. The image of women in textbooks. In Vivian Gornick and Barbara Moran (Eds.), Woman in sexist society -- Studies in power and powerlessness. New York: Basic Books, 1971.
This is an analysis of stereotypic images of females in textbooks for the 2nd through the 6th grades.

Weitzman, Lenore J.; Eifler, Deborah; Hokada, Elizabeth; and Ross, Catherine. Sex-role socialization in picture books for preschool children. American Journal of Sociology, 1972, 77 (6), 1125-1150.
An analysis of the picture books which were the Caldecott winners and runners-up between 1953 and 1971.

Weitzman, Lenore J., and Rizzo, Diane. Biased textbooks: Images of males and females in elementary school textbooks in five subject areas: What you can do about biased textbooks. Washington, D.C.: National Foundation for the Improvement of Education, 1974.
This booklet discusses the prevalence of stereotyping in elementary texts and offers suggestions on how to cope with sexist teaching materials.

Weston, Louise C., and Stein, Sandra L. A content analysis of publishers' guidelines for the elimination of sex-role stereotyping. Educational Researcher, 1978, 7 (3), 13-14.
This study investigated the use of guidelines by publishers and the comprehensiveness of these guidelines.

Women on Words and Images. Dick and Jane as victims: Sex stereotyping in children's readers. Princeton: Women on Words and Images, 1975.
This study shows the pervasiveness of sex-role stereotyping in children's readers and discusses the impact this stereotyping has on girls and boys. It offers recommendations for authors in writing nonsexist readers.

Zak, Itai, and Kaufman, Shlomit. Sex-stereotypes in Israeli primers: A content analysis approach. Studies in Educational Evaluation, 1977, 3 (1), 27-37.
A content analysis of primary reading textbooks used in Israel indicates that sex stereotypes are present there.

Section III: Resources for Providing Sex Equity in Education

Ahlum, Carol, and Fralley, Jacqueline. High school feminist studies. Old Westbury, N.Y.: The Feminist Press, 1976.
Twenty-three syllabi of courses developed by high school teachers are described in this book.

American Association of Colleges for Teacher Education. Journal of Teacher Education (Winter 1975) 26. Special Issue, "The Molding of the Nonsexist Teacher." American Association of Colleges for Teacher Education, 1 Dupont Circle, Washington, D.C. 20036.
All articles in this issue deal with the various topics related to the provision of sex equity in education.

Baker, Gwendolyn et al. Teaching about minority women. Special Current Issues Publications, ERIC Clearinghouse on Teacher Education, Suite 616, 1 Dupont Circle, Washington, D.C. 20026. 1977.
Addresses the conversion of racism and sexism as well as implications for teacher education.

Campbell, Patricia. Sex stereotyping in education. Developed under funding by the Women's Educational Equity Act Program, Office of Education, U.S. Department of Health, Education, and Welfare. Available from Education Development Center, Inc., 55 Chapel Street, Newton, Mass. 02160. 1979.
Seven modules (cassette and booklet) explore women's roles in science, mathematics, language arts, physical education, American history, educational history, and human growth and development.

Council on Interracial Books for Children. Stereotypes, distortions and omissions in U.S. History textbooks. New York: Racism and Sexism Resource Center for Educators, 1977.
Includes methods of analyzing texts for bias and approaches for counteracting this bias.

Davis, Lenwood G. The black woman in American society: A selected annotated bibliography. Boston: G. K. Hall and Co., 1975.
An annotated bibliography which focuses upon the achievements of the black woman in the United States as well as the barriers and obstacles to achievement.

Donady, B., and Tobias, S. Math anxiety. Teacher, 1977, 95 (November), 71-74.
A fear of math combines with traditional societal influences to produce a disproportionate number of math-avoiding and/or math-anxious girls and women. Authors suggest math clinics to assist individuals in overcoming math anxiety.

Educational Challenges, Inc. Today s changing roles: An approach to non-sexist teaching. Washington, D.C.: Resource Center on Sex Roles in Education, National Foundation for the Improvement of Education, 1974.
This publication provides a model for dealing with sex-role stereotypes in the elementary, intermediate, and secondary classroom.

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This is a career-guidance activity for secondary school students. It is designed to stimulate discussion of sex stereotyping and its implications for planning for the future.

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A newly revised and expanded Feminist resources, which has more than 500 listings of nonsexist books, pamphlets, articles, audio-visual resources, and other materials.

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Contains articles on assessing bias in social studies materials and on instructional approaches for counteracting this bias.

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This book documents a field survey and intervention program for changing sex-role stereotyping in children. In addition to reporting the results of the program, it also provides a variety of curricular resources and lesson plans which can be used at elementary and secondary levels.

Henslee, Tish, and Jones, Peg. Freedom of reach for young children: Nonsexist early childhood education. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education, 1977.
This booklet has been designed for teachers of children in preschool and primary grades. It includes background information on sex-role development as well as activities and programs for nonsexist teaching.

Hispanic women and education: Annotated selected references and resources. Available from the Women's Educational Equity Communications Network, Far West Laboratory for Educational Research and Development, 1855 Folsom Street, San Francisco, Calif. 94103.
This bibliography is especially concerned with issues relating to Hispanic women in education.

Howard, Suzanne. Liberating our children, ourselves. Washington, D.C.: American Association of University Women, 1975.
This is a description of women's studies courses. It includes course objectives, syllabi, and readings.

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Discusses sex and racial stereotypes as related to personal experiences, social institutions, and historical perspectives. For use with intermediate, secondary, and junior college students.

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Addressed to the teacher who must cope with sexist materials. The first step is to become aware of sex-role stereotyping. The author suggests activities and sources for further information.

Naiman, A. What to do about sex bias in the curriculum. American Education, 1977, 13 (April), 10-11.
Discusses several approaches to take in redressing sexism in schools. Presents recommendations for school boards and state boards of education.

Perl, Teri. Math equals, biographies of women mathematicians plus related activities. Reading, Mass.: Addison-Wesley Publishing, 1978.
This book contains biographies and contributions of nine female mathematicians, with suggested mathematical activities associated with the work of each.

Sadker, David. Being a man -- A unit of instructional activities on male role stereotyping. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education, 1977.
This unit has been developed for teachers of junior and senior high school students. It provides background information on issues of sex-role stereotyping and also classroom strategies and lesson plans to help students become aware of the male role stereotype.

Sadker, Myra. A student guide to Title IX. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education, 1977.
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This book discusses the crucial issues of society today and the ways these issues are handled in children's literature. Topics which are discussed include growing old, death, the treatment of various racial and ethnic minorities, sexism, and ecology. Extensive bibliographies accompany each chapter.

Schulwitz, Bonnie Smith. Coping with sexism in reading materials. The Reading Teacher, 1976, 29 (May), 768-770.
This article presents tactics for teachers to utilize when the reading materials available in their schools are sexist.

Sprung, Barbara. Nonsexist education for young children. A practical guide. New York: Citation Press, 1975.
This is a practical guide for parents and other educators of pre-schoolers on how to avoid sexist language and behavior patterns and how to counteract sexual stereotypes presented elsewhere (TV, books, etc.).

Styler, Sandra. Biographical models for young feminists. Language Arts, 1978, 55 (2), 168-174.
This article suggests ways of studying women's biographies so that young girls are provided with appropriate role models.

TABS: A quarterly journal of aids for ending sexism in schools. Lucy Picco Simpson, ed., 744 Carroll St., Brooklyn, N.Y. 11215.
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A set of materials designed to help in-service school librarians acquire attitudes and skills necessary for the promotion of educational equity through their professional activities in the schools.

Zimet, Sara Goodman. Print and prejudice. London, England: Hodder and Stoughton, 1976.
Includes sections on the effects of printed media on attitudes toward minority groups; also treats reading achievement in relation to ethnic and sex differences.